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National Summit on
INNOVATION
and **LEARNING**

S U M M A R Y



CANADA'S
INNOVATION
STRATEGY

Canada 

National Summit on
INNOVATION
and **LEARNING**
S U M M A R Y



Prepared by:
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FOREWORD

The aim of this report is to summarize the objectives, proceedings, and major outcomes of the National Summit on Innovation and Learning, held on November 18–19, 2002, at the Westin Harbour Castle Hotel, in Toronto, Ontario. At this summit, more than 500 leaders from across the country were convened to validate and prioritize a list of strategic recommendations from the innovation and learning engagement process that took place from May to October 2002, and to discuss key challenges to the realization of Canada’s vision to become one of the most innovative and skilled countries in the world.

This report is intended to capture the content of summit discussions and decisions, for the record of not only summit delegates, but all interested Canadians. It includes official speeches, as well as key points from presentations and discussions during the breakout and concurrent panel sessions, and presents agreed-upon priorities for action, concluding comments on the way forward, and a list of the delegates who attended the summit.

Much appreciation is extended to all delegates who committed their time and ideas to prepare for and participate in the National Summit.

For additional information on the National Summit on Innovation and Learning, summit materials, and the innovation and learning engagement process, readers may visit the *Innovation Strategy* Web site (www.innovationstrategy.gc.ca).

EXECUTIVE SUMMARY

BACKGROUND

The National Summit on Innovation and Learning, initiated by the Government of Canada and sponsored by the ministers of Industry and Human Resources Development, was held in Toronto on November 18–19, 2002. The objective of the national summit was to engage partners from the private sector, non-government organizations, academia and government in shaping the priorities for *Canada's Innovation Strategy*, and to seek commitment from all sectors for a Canadian innovation and learning action plan.

The summit was the culmination of a seven-month, country-wide engagement process that involved the participation of more than 10,000 Canadians who attended regional summits, sectoral meetings, expert round tables and best practice workshops to discuss *Canada's Innovation Strategy*, as outlined in *Achieving Excellence: Investing in People, Knowledge and Opportunity* and *Knowledge Matters: Skills and Learning for Canadians*, both released in February 2002. Over 250 written submissions were received as formal input to the engagement process.

More than 500 leaders from across the country attended the national summit. Participants were asked to identify the priority actions required by the private and public sectors to realize Canada's vision of becoming one of the most innovative and skilled countries in the world, as well as a magnet for talent and investment. The conclusions reached and advice provided regarding the implementation of priority recommendations will serve as a guide to governments, communities, educational institutions, private sector firms and other stakeholder groups, as Canada prepares to build on its past successes, while addressing strategic gaps in its innovation and learning systems.

THE SUMMIT OUTCOMES

The summit produced several outcomes. In working sessions, summit delegates prioritized the recommendations they considered to be the most critical within the five crosscutting themes identified in the engagement process. These were put forward, together with implementation strategies, as priorities for action. In panel sessions, delegates discussed challenges to innovation and learning vis-à-vis communities; immigration; life sciences, biotechnology and health innovation; and the environment and clean energy; and made a number of observations regarding what is needed to improve Canada's position in these domains. In speeches prepared by the Prime Minister of Canada and the Ministers of Industry and Human Resources Development, the Government of Canada made public statements of its commitment to early actions to advance the innovation and learning strategy, and announced a series of new initiatives. Key outcomes in each of these areas are summarized below.

Delegates' Priority Recommendations and Proposed Implementation Strategies

In five working group sessions, groups of delegates were asked to review the wealth of recommendations received from the earlier engagement events. Delegates would then identify the top three or four priority actions that should be taken to leverage Canada's innovation and learning performance in each of the five thematic areas confirmed during the engagement process. A list of 18 priority recommendations was brought forward, together with strategies for their implementation.

1. Research, Development and Commercialization

The group's first recommendation is to "enable the relationship between the receptor community and universities, colleges and researchers." The strategies for implementing this recommendation are to establish clusters and managed networks for sustained interactions among stakeholders; and to provide appropriate financial incentives to the private sector to help commercialize new products and services, and to strengthen research and business collaboration.

The second recommendation is to enhance research capacity by supporting and expanding university-based research. The implementation strategies are to continue to expand research funding, and to support indirect research costs.

The third recommendation refers to increasing commercialization outcomes by broadening and deepening the mandates of the technology support programs that are already in place. Strategies include simplifying access to information about, as well as the delivery of, these programs; broadening funding criteria; and attracting more private sector investment through partnering. The group further stated the need for smart capital.

2. Enhancing the Innovation Environment

There was virtually unanimous support for the first priority recommendation, to "reduce or eliminate capital taxes at the federal and provincial levels."

The second priority is to "improve the functioning of the Scientific Research and Experimental Development (SR&ED) program." Strategies include making tax credits fully refundable; broadening the definition of research and development (R&D) to include commercialization; and simplifying the application process and documentation requirement for the program.

The third recommendation is to “develop new tax-based instruments to stimulate seed and early-stage investments.” Strategies to implement this involve flowing tax credits directly to individual investors from accelerated depreciation and SR&ED; investigating the emulation of labour-sponsored tax incentives for individuals investing directly in start-up companies; and reciprocally eliminating withholding taxes on dividends and interest for foreign investors.

The fourth priority recommendation is to “accelerate regulatory reform,” on a sector-by-sector basis by 2005, through the implementation of priorities and recommendations already established by *Canada’s Innovation Strategy*, and pursuant to the framework already proposed by the House of Commons Finance Committee on cost recovery and regulatory reform.

Although the issue of intellectual property did not appear on the group’s list of top priority recommendations, all participants in the breakout session expressed concern over the issue.

3. Strengthening Our Learning Culture

This group’s first priority recommendation is the establishment of a pan-Canadian literacy / essential skills system, supported by federal, provincial and territorial governments. Other principles and pillars of literacy development included considering international educational models; ensuring long-term sustainable funding; ensuring cross-sector partnerships in delivery; and developing tools for delivery.

To integrate innovation-related skills in curriculums, process and culture, which is the second priority recommendation, the suggested implementation strategies include developing and tracking indicators of innovation in learning; and developing federal and provincial/territorial strategies to support innovation in both formal and informal learning in all disciplines, for learners of all ages.

The third priority recommendation is to “adjust the system of student financial assistance.” The group suggested savings-based, needs-based and merit-based programs to enhance financial assistance for students, and stressed the need to improve opportunities for financial assistance for part-time studies and for students who study abroad.

The fourth priority recommendation is to “expand post-secondary capacity.” The strategies for the implementation of this recommendation include establishing a “Post-Secondary Education Act” along the lines of the *Canada Health Act*; developing an assessment-based strategy with multiple points of accessibility; and implementing a marketing campaign for lifelong learning.

4. Building an Inclusive and Skilled Work Force

The first recommended priority is to “increase the participation levels of under-employed groups.” The strategies agreed upon by this group are to utilize partnership agreements such as Labour Market Development Agreements (LMDAs) to provide skills development to people not previously in the work force, or recently absent from the work force; implement community-based “one-stop shops” to advance local innovation priorities related to the participation of disadvantaged groups; and assist Canadians to better prepare for labour market participation through career development and employment preparation.

The second priority is to increase investment in workplace training. Implementation strategies include having all governments make maximum usage of existing mechanisms such as LMDAs; developing a program whereby the federal government matches employers’ and employees’ investments in training, with the requirement that the training meet national standards; encouraging stakeholders’ support for existing partnerships; and encouraging industry to define training needs to help individuals make informed training choices.

The third priority is to improve the process of recognition of foreign credentials. Implementation strategies include establishing a “one-stop shop” to disseminate information about credential recognition to immigrants prior to arrival; and for the Government of Canada to work with the provinces/territories and stakeholders to establish a mechanism to develop national standards for foreign credential recognition.

5. Strengthening Communities

The group identified four recommended priorities under three broad areas. The first two recommendations are to “collaborate with local social, economic and community development stakeholders — across sectors and inclusive of rural, Aboriginal and urban communities — to prepare long-term community plans and strategies”; and to “support the growth of clusters by fostering the development of local research institutions and schools and facilitating cross-community partnerships.” Stressing the need for all levels of government to work together in conjunction with all sectors and stakeholders, the group recommended the development of an information architecture for the transfer and dissemination of knowledge at the community level; and seed funding to support community-initiated activities.

The group's third priority is to "extend broadband access across the country, and into rural and remote areas." Broadband access increases the capacity of rural and Aboriginal communities for communication and learning — "e-everything." Implementation strategies include cross-subsidizing communities to extend broadband to communities that do not have it; ensuring community-based planning processes and equitable access to all members of society; revisiting the timing of the delivery of broadband to remote areas; and developing in-kind contribution programs to encourage the participation of the private sector.

The fourth recommendation focusses on strengthening rural and Aboriginal communities: to "enhance the learning capacity of children, youth and adults in rural and Aboriginal communities by providing support programs and educational opportunities tailored to the needs of the local community." The implementation strategies include encouraging all levels of government to facilitate community-based think-tanks to identify innovative opportunities; providing seed capital earmarked for capacity building; providing funding for basic infrastructure, informed by each community's needs; improving synergies among all federal departments sharing a common objective in terms of rural and Aboriginal communities; providing literacy programming, again informed by the specific needs of each community; and encouraging collaboration among all education stakeholders.

Observations Regarding Key Challenges to Innovation and Learning

Concurrent discussion panels on the challenges to innovation and learning in four key areas provided delegates with an opportunity to express their views about how to integrate these themes into Canada's strategy. These sessions focussed on recommendations and prescriptions for Canada to become more internationally competitive in immigration policies, health research (life sciences and biotechnology) and environmental technologies (clean energy) innovation, and community development. The vision is for Canada to become a magnet for talent and investment, as well as a world leader in innovation in emerging sectors.

1. Mobilizing Communities

The major observation from this session was that innovation and learning start at the community level. Without strong communities, both large and small, Canada will fail to realize its bold targets for improved competitive performance. Federal and provincial governments are encouraged to provide resources and funding to build a framework to support communities in the development of their own innovation and learning action plans, reflective of their unique needs, infrastructure and assets. All communities must be included in implementing *Canada's Innovation Strategy*, and delegates were encouraged to act on the findings of the summit by empowering rural, Aboriginal and remote communities, without neglecting large urban centres.

2. Immigration

The moderator's report on this session placed a high value on the attraction and retention of skilled immigrants. It stressed the importance of providing timely Canadian labour market information to would-be immigrants, and assisting employers seeking to recruit skilled individuals by fast-tracking the immigration entry process. The mechanism for recognizing foreign credentials needs to be modernized, and employers and prospective immigrants need to be better informed about this process. Although people will come to Canada for jobs, they will stay in communities where they are supported socially and culturally. This has implications for creating a welcoming environment for new immigrants in Canada's urban and rural communities.

3. Life Sciences, Biotechnology and Health Innovation

The moderator reported that tremendous potential exists to produce economic and social benefits to Canada from innovations in life sciences, biotechnology and health care. However, for this potential to be realized, focussed attention is required in several areas. Barriers include a lack of access to long-term research funding, lack of internationally competitive intellectual property protection, prolonged regulatory approvals, inadequate supply of biotechnology scientists and health researchers, and so on. An alignment of national strategic initiatives is needed; in particular, the *Innovation Strategy* needs to be aligned with the modernization of the health care sectors. Institutional and governmental leadership is necessary on all levels to reinforce the commercialization opportunities and R&D mandates. This must permeate all sectors of the economy.

4. Environment and Clean Energy

Delegates in this session agreed that environmental and clean energy technologies represent an area of huge opportunity for Canada. The federal and provincial governments need to support the development and commercialization of new technologies through several vehicles, such as ecological fiscal reform, market demonstration and procurement programs, a friendly regulatory environment, and the expansion of the many successful R&D programs in existence. Universities and colleges need to encourage cross-training and a multidisciplinary approach, in order to build capacity among MBAs and engineers for the commercialization of these new technologies. Industry and investors need to develop and adopt new environmental and clean energy technologies, and venture capitalists are needed to support this effort. Industry also needs to report on environmental and sustainable development practices and performance.

Government of Canada Early Actions and Announcements

The Prime Minister's speech laid out a Five-Point Action Plan on Innovation and related government initiatives.

1. **To make Canada a learning society, where learning and upgrading become continuous.**
The federal government announced its commitment to work with its partners, including the provinces and territories and the private sector, to develop the **Canadian Learning Institute** to create a locus for information and research on learning.
2. **To become a knowledge society that invests in ideas** (in research, advanced studies, multidisciplinary approaches, new discoveries, and their application and commercialization).
The **Framework of Agreed Principles, concluded by Industry Canada and the Association of Universities and Colleges of Canada**, was announced. Canadian universities have agreed to double the amount of research they perform, and to triple their commercialization performance.
3. **To improve how ideas are brought to market, and create clusters that link those who produce and those who apply knowledge.** The Prime Minister's remarks promoted the "cluster philosophy," and he stated that the federal government would be making more concrete announcements to help create clusters in the weeks and months ahead.
4. **To work together on smart regulations that spur innovation.** The External Advisory Committee on Smart Regulations will soon be announced. The initiative will focus on renewing the regulatory framework for new drug approvals, improving copyright regimes, and making environmental approvals more transparent and effective.
5. **To draw on Canada's diversity of talent, and to implement an urban strategy that will help create a quality of life in communities to ensure Canada becomes a magnet for talent and investment from all over the globe.** To help achieve this objective, the Prime Minister's speech referred to actions that will:
 - fast-track skilled workers entering Canada with jobs awaiting them;
 - work with partners, including provincial/territorial governments, regulatory bodies and other partners, to eliminate impediments to the recognition of foreign credentials;
 - recruit skilled workers more aggressively, through embassies abroad and foreign universities;
 - promote entrepreneurship among Aboriginal people, and invest in targeted training programs for them;
 - fast-track a comprehensive agreement to remove barriers to participation in work and learning for persons with disabilities; and
 - create the Prime Minister's Caucus Task Force on Women Entrepreneurs.

Fitting within this component of the Five-Point Action Plan, the 10-year infrastructure program is intended to invest in transit, housing and key infrastructure as a way to build world-class cities that create clusters, draw talent and are inclusive (the federal government's urban strategy). Finally, Canada will strive to be a world leader in the environment, energy and health sectors, by making and attracting strategic investments in opportunities for innovation in these areas. The Prime Minister's remarks also included an announcement that the Advisory Council on Science and Technology is being revitalized to provide ongoing advice regarding the *Innovation Strategy*.

Further announcements were made by Minister Rock and Minister Stewart:

- The time frame for implementing the regulatory reform process will be moved forward from 2010 (the date specified in *Achieving Excellence*) to 2005 (the date recommended in input from the engagement process).
- A consultation paper on the question of foreign ownership restrictions in telecommunications infrastructure has been released (recommendations are to be returned to the federal government by February 2003).
- The renewed Advisory Council on Science and Technology has agreed to a work plan that involves creating a strategic framework for Canada's research enterprises that will help guide the government in decisions about which investments will be most effective in advancing its strategic goals; and developing a plan to simplify and consolidate the research landscape, and consolidate funding sources and application processes.
- Working groups will be created to continue efforts in key areas affecting innovation and learning performance, such as concrete measures to improve access to risk capital or change regulations in certain areas.
- Actions will be taken to reduce barriers to accessing post-secondary education, by looking at student assistance programs, including the Canada Student Loans Program, to make student loans more readily available to part-time students.
- The connection between Aboriginal communities and the private sector will be facilitated to increase Aboriginal participation in the labour force.
- Twelve million dollars of funding has been allocated to a partnership with the Canadian Apprenticeship Forum and Skills Canada to do a better job of delivering the message to Canadian parents, young people and employers in all of the skilled trades, who are willing to or need to create apprenticeships, that skilled trades are in demand and offer attractive career opportunities.

“Becoming a learning society, a knowledge society; having smart regulations; creating clusters; valuing diversity; and moving forward on an urban strategy — a quality of life agenda for our communities — this is our Action Plan on Innovation.”

— Prime Minister's Speech, November 18, 2002

Moving Forward

The government committed to taking early actions to establish the concrete next steps in the innovation and learning strategy, expediting reviews of key regulatory regimes, and seeking expert advice on some key outstanding issues. There is support for moving forward on the development of plans by sectors and communities to advance their own strategies. Further, ministers committed to maintaining ongoing dialogue with their provincial/territorial counterparts to deepen and broaden collaboration on innovation and learning, as well as to establishing a process for monitoring progress. Annual reports will be published to measure Canada's performance against the broad innovation targets.

Delegates received a copy of *Priorities for Innovation and Learning*, outlining the government's early actions in support of the innovation and learning strategy, and including priority recommendations concluded during the day (see *Appendix 4*).

The ministers committed to reconvene a national summit in two years to take stock, assess what has been done, and identify gaps where further progress must be made.

INTRODUCTION

SUMMIT BACKGROUND AND CONTEXT

The Government of Canada recognizes innovation as a key priority for the continued rise of Canada's prosperity. On February 12, 2002, it launched *Canada's Innovation Strategy*, with the release of two companion documents: *Achieving Excellence: Investing in People, Knowledge and Opportunity* and *Knowledge Matters: Skills and Learning for Canadians*. These papers set out the key innovation and learning challenges that face Canada, as we work to improve our international competitiveness and standard of living. They also included a number of proposed goals, milestones, targets and actions that the Government of Canada could take, or is already taking, to contribute to the vision of making Canada one of the most innovative and highly skilled countries in the world, and make it a magnet for talent and investment.

In May 2002, the ministers of Industry and Human Resources Development invited all Canadians to take part in a country-wide engagement process to discuss the innovation and learning strategy. They were joined in this exercise by a number of other federal departments. Key stakeholders and experts from a wide range of large and small businesses; academia; governments; industry, business and labour associations; voluntary sector organizations; and other stakeholders and partners joined in a series of regional, national and sectoral meetings, expert round tables and best practice events to provide feedback on and commitment to *Canada's Innovation Strategy*. Over the next seven months, more than 10,000 Canadians participated in this discussion, through events, meetings or on-line surveys. Associations, organizations and businesses of various kinds responded to the call for action by preparing more than 250 written submissions as formal input to the engagement process. In addition to endorsing, critiquing and otherwise commenting on aspects of *Canada's Innovation Strategy*, reports and submissions included numerous recommendations concerning necessary actions to improve Canada's innovation and learning performance. A summary of the highlights of what was heard from the many stakeholder groups on a variety of themes is reported in *Canadians Speak on Innovation and Learning* (available at www.innovationstrategy.gc.ca).

All reports, submissions and on-line feedback were reviewed and analysed to determine the key issues and recommendations arising from the different perspectives and shared priorities of Canadians. More than 1,000 issues and over 2,000 recommendations were recorded in an analytical database constructed by The Conference Board of Canada, on behalf of the Government of Canada. Many of these issues and recommendations were specific to particular communities, regions or interest groups, while others were more broadly applicable to a cross

section of Canadian society. Many of the recommendations converged into common sets, enabling a manageable categorization into the five key issues and 93 recommendations presented in the *National Summit on Innovation and Learning: Discussion Guide*. These tended to be the most frequently occurring, strongly reinforced and overlapping of the overall set of recommendations, as well as the most horizontally applicable to broad sections of Canadian society, including diverse groups of citizens and communities.¹

The culmination of the engagement process was the November 18 and 19, 2002, National Summit on Innovation and Learning, held in Toronto. More than 500 leaders representing a diversity of interests, regions and sectors of the economy attended (see *Appendix 8 for the Summit Participant List*). Delegates were given the opportunity to debate and reach consensus on the recommendations in the *Discussion Guide*. After discussing and selecting priority recommendations, delegates were also asked to suggest implementation strategies for each recommendation, including the what, how, who and when of each one.

The objective of this report is to capture the highlights of the National Summit on Innovation and Learning, its objectives and outcomes. It includes official speeches and key discussion points; presents the agreed-upon challenges, targets and priorities for action; and highlights concluding comments on the way forward. The Summit Program is included as Appendix 1.

OVERVIEW OF THE SUMMIT AGENDA

The objectives of the National Summit on Innovation and Learning were to engage partners in the private sector, non-government organizations, academia and government in shaping the priorities for *Canada's Innovation Strategy* and to seek commitment from all sectors for a Canadian innovation and learning action plan. The program agenda for the summit emphasized interaction and discussion among the delegates.

The summit was co-chaired by Dr. Anne Golden, President and Chief Executive Officer of The Conference Board of Canada, and Dr. Claude Lajeunesse, President of Ryerson University. The Honourable Allan Rock, Minister of Industry, and the Honourable Jane Stewart, Minister of Human Resources Development, launched the summit on the evening of November 18, 2002, and welcomed delegates. During the dinner, an address from the Right Honourable Jean Chrétien, Prime Minister of Canada, was delivered in his absence by Minister Jane Stewart (see *Appendix 2*). In these remarks, the Prime Minister laid out the Government of Canada's Five-Point Action Plan on Innovation, outlined federal commitments to respond to the country's economic and social

1. Many of the issues and recommendations raised in the engagement process do not appear in the *Discussion Guide*, particularly those that pertain to specific regions or interest groups. Follow-up on these recommendations is likely to be the subject of sector or regional attention.

challenges, and urged the private sector and its many constituents to take actions in a number of strategic areas to help advance Canada's performance in key areas of innovation and learning.

Tuesday, November 19, 2002, began with opening remarks from Minister Allan Rock and Minister Jane Stewart (see *Appendix 2*). These were followed by overview presentations on the five themes of the summit, which were the topics of discussion for the subsequent morning breakout sessions:

- Improving Research, Development and Commercialization
- Enhancing the Innovation Environment
- Strengthening Our Learning Culture
- Building an Inclusive and Skilled Work Force
- Strengthening Communities.

Delegates attended the morning breakout session that interested them most. In these two-hour sessions, they discussed and decided on priority recommendations and implementation strategies (see *Appendix 3 for a list of the 18 priority recommendations*).

During a working lunch, delegates attended a second set of four concurrent sessions, where they discussed key challenges to innovation and learning. The luncheon sessions addressed the following topics:

- Mobilizing Communities
- Immigration
- Life Sciences, Biotechnology and Health Innovation
- Environment and Clean Energy.

These 90-minute sessions differed in format from the five held before lunch. Expert panellists made presentations and delegates discussed, commented and posed questions in response to issues raised in the panel presentations.

The day concluded in a plenary session, where delegate rapporteurs reported back on the priority recommendations and implementation strategies that emerged from the morning's five thematic breakout sessions. Selected panellists from the concurrent luncheon sessions also provided summaries of the presentations and discussions that took place in their respective sessions.

In their closing remarks, the co-chairs related their reactions to the days' events. Ministers Jane Stewart and Allan Rock also shared their reactions and commented on the next steps to be taken in Canada's innovation and learning action agenda. At the end of the summit, delegates received a paper copy of a presentation reflecting the priorities for action on the part of the Government of Canada (see *Appendix 4*). This presentation included early government commitments to build

“A continuation of the process begun today, with concrete benchmarks and deliverables, and with ongoing dialogue with today’s participants, will lead to our continuous improvement.”

— Summit delegate

momentum in support of the innovation and learning strategy, as well as announcements made in the Prime Minister's and ministers' speeches at the summit, many of which were in response to input from the engagement process as it unfolded. It also incorporated the recommended priorities for action put forward by delegates during the day of November 19, 2002. This provides a platform for moving forward, one in which all stakeholders can take ownership.

"Let's work to make the 'call for action' be indeed a 'time for action'; there are sufficient ideas and experiences to justify taking informed calculated risks, to put them to the test, and to govern what is at stake for our country."

— Summit delegate

The summit was considered a success by both organizers and delegates. Considerable momentum was built over the course of the day. Representatives of communities, business, industry, labour, educators, research and development (R&D) performers, government departments, and other levels of government expressed their support for, and commitment to, the realization of Canada's innovation and learning vision. The fact that the priority recommendations for action reflected many of those from the original engagement process documents confirmed the validity of the targets, milestones and proposed actions set out in February 2002. This confirmation helped to create confidence that Canadians are focussing on the right issues. Both ministers stressed that individual and partnered actions will be necessary in order to implement Canada's priorities for innovation. They also proposed that a second national summit be convened in two years to reflect on progress and chart the next phase of the implementation process.

SUMMIT LAUNCH

The summit opened on the evening of November 18, with comments by co-chairs Anne Golden and Claude Lajeunesse, who stated that the summit was an important moment: perhaps the most powerful gathering of Canadian leaders in one room seen in years, and distinguished by the presence of Minister Allan Rock and Minister Jane Stewart, other federal and provincial ministers, and more than 500 prominent leaders from the private, public and voluntary sectors.

Dr. Lajeunesse highlighted the fact that the summit was the culmination of months of national engagement, including meetings held across the country and hundreds of written submissions. He defined the role of delegates as one of helping to advance the innovation and learning agenda from ideas to action and implementation. He stressed that change will take place only with the participation of all stakeholders.

Dr. Golden reiterated The Conference Board of Canada's fundamental belief that innovation and learning are key drivers of productivity and competitiveness, and ultimately of a higher quality of life for all Canadians. She said how impressed she was with the powerhouse of talent, commitment and leadership of those attending the summit, noting that this "bodes well to harness the power of spontaneous combustion that we call innovation." She then introduced Minister Jane Stewart, who delivered remarks on behalf of Prime Minister Jean Chrétien, who was unable to attend (*see Appendix 2*).

The summit reconvened on the morning of November 19, with welcoming remarks by Dr. Golden and Dr. Lajeunesse, who restated the purpose of the summit: to hear from participants and to learn, from their knowledge and with their commitment, what changes can be brought forth into an action plan for innovation and learning. The ultimate objectives of this plan are to make the country a magnet for talent and investment, and to build a society and economy based on innovation and learning.

Dr. Golden and Dr. Lajeunesse outlined the structure and expected outcomes of the day's workshops and panel sessions, tasking participants with setting overall priorities, defining implementation strategies and promoting the buy-in of all relevant stakeholders.

They reminded participants that innovation and learning are not solely government issues — that Minister Stewart and Minister Rock have a role in shepherding the strategy and identifying actions, but that all Canadians have a role to play.

Prior to the morning breakout sessions, Minister Rock and Minister Stewart delivered keynote addresses, during which they both made a number of announcements regarding early government actions in support of the innovation and learning strategy. (*Refer to Appendix 2.*) They urged the private sector and other stakeholders to address challenges in key strategic areas, such as the scope for R&D investments; the availability of risk capital; upgrading of worker skills; innovation in health care, environmental technologies and climate change; access to e-learning; foreign credential recognition; and forging partnerships. They welcomed the advice that would come from delegates at the end of the day.

SUMMARY OF SUMMIT SESSIONS

OVERVIEW OF KEY SUMMIT THEMES

Five experts from across Canada set out the major challenges related to the summit's five themes, which formed the basis of deliberations and decision making at the morning breakout sessions. The issues related to these themes were outlined in the *National Summit on Innovation and Learning: Discussion Guide* (available on-line at www.innovationstrategy.gc.ca).

1. Improving Research, Development and Commercialization
 - 1.1 Enhance Our Research Capacity
 - 1.2 Increase Commercialization Outcomes/Results
 - 1.3 Improve Access to Capital
2. Enhancing the Innovation Environment
 - 2.1 Support Innovation Through the Tax System
 - 2.2 Accelerate Regulatory Reform
 - 2.3 Modernize the Intellectual Property Regime
3. Strengthening Our Learning Culture
 - 3.1 Ensure Access to Learning Opportunities
 - 3.2 Encourage Innovation and Flexibility in the Formal Learning System
 - 3.3 Promote Careers in Skilled Trades
 - 3.4 Support Lifelong Learning
4. Building an Inclusive and Skilled Work Force
 - 4.1 Increase the Size of the Labour Force
 - 4.2 Integrate Immigrants into the Work Force
 - 4.3 Invest in Workplace Training
5. Strengthening Communities
 - 5.1 Support the Development and Growth of Clusters
 - 5.2 Extend Broadband Access
 - 5.3 Build Learning and Innovative Communities
 - 5.4 Strengthen Rural/Aboriginal Communities

IMPROVING RESEARCH, DEVELOPMENT AND COMMERCIALIZATION

Dr. Martha Piper, President, University of British Columbia

Martha Piper said she was encouraged by the Government of Canada's call to innovation and the commitment by industry, government and academia. Particularly encouraging is the federal government's commitment to double R&D spending and its challenge that the private sector triple theirs.

She noted that, over the next 18 months, numerous state-of-the-art research facilities will be opening across the country. These will provide the tools that serve as magnets to attract the best minds to Canada to do research and drive innovation.

Dr. Piper outlined what Canada needs to do to "stay on track" in creating an innovative economy, focussing on the need for more investment in R&D; ongoing support for the indirect costs of post-secondary education; increased support for basic research; enhanced support for graduate students; improved commercialization by colleges and universities; and significant incentives to attract international and Canadian graduate students to provide the highly qualified people needed to advance education and research, which are the cornerstones of innovation. She expressed her belief that the benchmark of our R&D performance should move beyond a simple measurement of R&D spending to include its performance, which is the impact this spending produces.

Research indicates that high-tech success is tied to an area's tolerance of cultural diversity, so she stressed the importance of creating a deep understanding of the complex components of a successful civil society.

She also stressed the importance of strengthening our culture of innovation, saying that Canadians can lead the world when they put their minds and their money to work. "By staying the course, we can succeed in attaining our goal of being among the top five innovative countries in the world," she said.

ENHANCING THE INNOVATION ENVIRONMENT

Don Drummond, Senior Vice-President and Chief Economist, TD Bank

Don Drummond focussed on areas pertaining to the three sub-issues of Enhancing the Innovation Environment: the tax system, regulatory systems and the intellectual property regime. He said there is consensus about the need to create a more competitive tax regime and remove disincentives from the economy. He urged the federal and provincial governments to eliminate the

capital tax. According to Mr. Drummond, while the engagement process has appropriately identified Canada's capital taxes as a major barrier to innovation (no other country directly and so heavily taxes capital), the second problem — the high marginal personal income tax rates for low- to mid-income families — has not been addressed. Mr. Drummond believes that the high rates for families with taxable income between \$20,000 and \$40,000 are producing a disincentive to learn, get training and be more innovative overall.

Mr. Drummond then focussed on the question of how to create incentives for innovation through the tax system. He pointed out that the recommendations have focussed mainly on specific proposals for targeted incentives — investment tax credits, accelerated depreciation allowances, flow-through provisions and incentives for venture capital. What is missing? The answer is alternative approaches to achieving greater innovation outcomes. Tax incentives keep the general tax rates up. The alternative is to have a broad tax base (meaning fewer tax credits), which would act to drive the rates down. Instead of introducing more tax incentives, he advocated the lowest possible tax rates — rates that would stimulate innovation and commercialization in the country, without picking winners or losers.

He asked summit participants to be open to the possibility of shifting the tax mix in Canada from income and capital-based taxes (as he believes these taxes are the most destructive to investment and growth, and thus our future standard of living) toward consumption taxes.

Mr. Drummond urged the government to accelerate the regulatory review. He cautioned against allowing narrow interests to dominate the review. The scope of the review must include federal, provincial and local regulations, particularly internal barriers to trade, multiple and inconsistent labour regulations, multiple securities regulations, and multiple provincial drug administration plans. His view was that Canada suffers because it fragments its own market through multiple jurisdictions, and overlapping and contradictory regulations.

Because patents are increasingly becoming an international matter, Mr. Drummond has called for greater harmonization with international regimes. To this end, Industry Canada's efforts through the World Intellectual Property Organization (WIPO) are to be encouraged. Another international matter is the protection of copyright on digital material.

He also called for an acceleration of the patent examination process in Canada, supported by such actions as increasing the number of patent officers from 100 to 350.

Mr. Drummond urged participants to pay special attention to the diffusion of new ideas and technologies throughout the economy, which is as much a question of management as it is of science, and to the particular role of private sector leadership, in accelerating innovation in Canada. (*Refer to Appendix 5 for Mr. Drummond's presentation.*)

STRENGTHENING OUR LEARNING CULTURE

geneviève bich, Vice-President, Industrial Relations, Bell Canada Enterprises

Ms. bich said she hoped to provoke participants to discover better ways to unlock the creativity and skills of Canadians. She provided participants with an interpretation of the term “strengthening our learning culture” from the point of view of Bell Canada, a major Canadian telecommunications company with annual sales of more than \$10 billion. She noted that each word in the phrase was important. “Strengthening” suggests that Canada may be falling behind and that we may not be fully equipped to meet the challenges of the knowledge economy. “Learning” refers to the lifelong acquisition of knowledge, understanding and skill, by study, instruction and experience. “Culture” is the integrated pattern of human knowledge, belief and behaviour that depends on people’s capacity for learning and transmitting knowledge to the succeeding generation.

In her view, innovation can grow only if culture supports it. This means investing in more than technology and research, it requires investments in knowledge and behaviour. It also requires creating labour market transition models that allow movement from one stage of learning to another (from school to work, or from one sector to another). It also demands new tools to measure the value of knowledge assets. The Conference Board of Canada is developing tools to manage and measure these assets and help individuals move along the innovation continuum.

She emphasized that leadership is one of the most essential and vital business skills and one of the main drivers of innovation. It needs to be explicitly taught and fostered in relation to four domains of innovation: creating, executing, managing and commercializing. She said innovation is an important issue for Bell Canada — so important that it has produced its own White Paper on Innovation to explore how to achieve and foster innovation. In Bell’s view, innovation resides in people; it is a combination of knowledge and behaviour that requires a transformational state of mind — one that involves converting knowledge into commercialized products. (*Refer to Appendix 5 for Ms. bich’s presentation.*)

BUILDING AN INCLUSIVE AND SKILLED WORK FORCE

Robert Blakely, Director, Canadian Affairs of the Building and Construction Trades Department, American Federation of Labour — Congress of Industrial Organizations (AFL-CIO)

In his presentation, Robert Blakely underscored the importance of highly skilled tradespeople to Canada's competitiveness and growth. He pointed out that skilled tradespeople are an ageing component of the population and that the trades require bright and capable people to pick up the slack as baby boomers retire. He emphasized that the trades are infused with technology and are not the refuge of those who "can't make it in university." The skilled trades suffer from an image problem that is deterring youth from choosing careers in these areas.

Mr. Blakely also noted that future tradespeople require a broad mix of skills, attitudes and behaviours, including not only Red Seal qualifications, but also the "right soft skills" and migration skills to be adaptable to and to move where the work is.

Mr. Blakely observed that collaboration among governments, educational institutions, and regulatory agencies is crucial to attracting people to the trades, to retaining talented apprentices and tradespeople, and to harnessing the human capital of tradespeople in Canada's competitiveness and growth. Mr. Blakely cited the need for national standards for common core curriculums, and for sequencing training to ensure that apprentices can obtain their qualifications regardless of the province in which they start their apprenticeship, no matter where they complete different parts of their training, or where they become certified. This means developing more and better sectoral partnerships and harmonization of apprenticeship authorities. There must be enhanced opportunities for Aboriginal people, women and people with disabilities, he said. Mr. Blakely highlighted the need for soft skills such as literacy and communication, and the need to better anticipate Canada's immigration needs. *(Refer to Appendix 5 for Mr. Blakely's presentation.)*

STRENGTHENING COMMUNITIES

Raymond Ivany, President, Nova Scotia Community College

Raymond Ivany described the centrality of communities within the *Innovation Strategy*. With 80 percent of the Canadian population living in smaller urban centres, Canada has a highly distributed population. He asserts that community development is the key to unleashing the innovation potential that resides in individuals.

*Innovation is ...
“intensely rooted
in place.”*

— *Raymond Ivany*

Even as national borders become seamless in our increasingly globalized world, the notion of communities and localization remain unchallenged. In fact, communities help support the democratic process upon which our country is built. When communities are confronted by the forces of globalization, they are reminded to compete and be the best in the world in order to sustain innovation. Some have taken that challenge and succeeded, and some have failed.

A community cannot be successful without local leadership. Leadership takes place and communities succeed because the community demands it and decides to push toward success — not because of an outsider offering assistance. Firms and individuals come together to take part in networks and clusters, and as a result behave in a different way. This also makes others around them behave differently (universities, research institutions and so on). Those firms that are deeply rooted in the social and economic context of their communities collaborate with others in order to succeed. Community clusters encourage governments to come out of their silos and become active partners in encouraging businesses to collaborate rather than compete with each other, and to put “the legs on new ideas.”

Each community has a mixture of joint economic and social problems that require joint solutions. Not everyone succeeds in the community. Communities are home to both those who are in and those who are looking in. An innovation strategy is one way to get rid of disparities, and to get rid of them more effectively than our competitors do.

Learning, knowledge and skills are key to a knowledge economy, but not everyone possesses them. According to Mr. Ivany, Canada must address the duality of the knowledge economy: the high proportion of adults with post-secondary education versus the high proportion of adults who face a strong literacy challenge. From both an economic point of view and a social one, everyone needs to participate as fully as possible in innovation performance. That means recognizing where learning has already taken place and filling in the gaps in order to give communities the strength they need to be at the centre of the *Innovation Strategy*. (Refer to Appendix 5 for Mr. Ivany’s presentation.)

MORNING BREAKOUT SESSIONS: SHAPING PRIORITIES FOR CANADA'S INNOVATION AND LEARNING PLAN

During the remainder of the morning, delegates broke into five breakout rooms, each of which discussed one of the five summit themes and its associated list of priority recommendations. These were presented to delegates in the summit's *Discussion Guide*. The group in each room, organized in small round tables, was led by a professional facilitator. Participants were asked to spend some time discussing the list of recommendations in each of the related sub-issues, and then to arrive at a consensus regarding the top three priority recommendations for the theme area. An important criterion to be applied in determining priorities was the extent to which the recommendation would leverage Canada's innovation and learning performance. Delegates were instructed that they could modify and combine recommendations, as appropriate, and that new recommendations could be formulated.

The priority recommendations from each round table were then rationalized so delegates could determine the top three priorities for the room as a whole. A voting system was used for this process. (In three of the five breakout sessions, delegates put forward four, rather than three, priority recommendations.)

Following this prioritization, each round table was assigned the task of formulating implementation strategies for one of the three or four priority recommendations. They were asked to consider precisely what should be done to implement the recommendation, who would be responsible, and in what time frame.² Delegates were also invited to make general observations about the issues, the process, and challenges or barriers to implementation. Table reports were supplied to enable delegates to capture the views and positions of each round table.

In addition to the facilitator in each breakout group, a delegate rapporteur was assigned to present a plenary report on the outcome of the group's deliberations in a mid-afternoon feedback session. Officials from Industry Canada and Human Resources Development Canada were available as resource persons in each breakout room.

The next section summarizes the feedback from the five breakout sessions, including details of the three or four priority recommendations selected by participants in each breakout session.

2. It should be noted that insufficient time during breakout sessions inhibited delegates from formulating comprehensive implementation strategies. In addition, delegates were reminded that the *Discussion Guide*'s recommendations not making it into the top three or four priorities would not be ignored, but would remain as issues to be addressed as the innovation and learning strategy unfolds to 2010.

1. IMPROVING RESEARCH, DEVELOPMENT AND COMMERCIALIZATION

Delegates at the 16 round tables in this breakout session considered a total of 16 recommendations, grouped under three sub-issues:

- 1.1 Enhance our research capacity
- 1.2 Increase commercialization outcomes/results
- 1.3 Improve access to capital

The rapporteur for the group was Susan Smith, President and Chief Executive Officer of RBC Technology Ventures, Inc.

Top Three Priority Recommendations and Proposed Implementation Strategies

Recommendation 1:³ Enable the relationship between the receptor community and universities, colleges and researchers; strengthen receptor capacity.

Proposed Implementation Strategies:

1. Strengthen research and business collaboration. Establish clusters and managed networks for sustained interactions among stakeholders, especially between academic institutions, government laboratories, businesses and financiers, similar to those set up in locations such as Ottawa (Ottawa Centre for Research and Innovation [OCRI]), Saskatoon (Innovation Place), Vancouver (Discovery Place) and Toronto (MaRS Discovery District). Utilize “fourth pillar organizations” to facilitate partnerships between key stakeholders.
2. Provide appropriate financial incentives to the private sector (especially start-ups and small and medium-sized firms) to help commercialize new products and services.
3. Harmonize and simplify R&D funding programs. Use broad-based rather than specific criteria to evaluate proposals. Base evaluations primarily on merit. Measure outcomes beyond commercialization (for example, measure productivity).
4. Standardize the rules and/or process for technology transfer through the sharing of best practices.

Recommendation 2: Continue to expand university-based research in Canadian universities, large and small, by strengthening university research infrastructure (for example, establish a permanent program for the reimbursement of indirect costs).

³ This is a new recommendation developed by breakout groups during their discussions. It does not appear in the *Discussion Guide*.

Proposed Implementation Strategies:

1. Expand research funding to the granting councils, Canada Foundation for Innovation, and Canada Research Chairs.
2. Support indirect research costs as a specific percentage of direct research costs (30 to 40 percent). Establish a permanent program for the reimbursement of these indirect costs.
3. Ensure participation by universities of all sizes and disciplines.
4. Other recommendations under this sub-issue support the implementation of this recommendation:
 - a. Increase the number of people with advanced research degrees by decreasing the completion time and cost of degrees (for example, through graduate fellowships and research grants) and the capacity of universities to produce them (for example, Canada Research Chairs).
 - b. Attract and retain young faculty members through targeted research funding.
 - c. Channel more funds into large-scale domestic and international research collaborations to attract and retain talent; create strong linkages between companies, universities and government labs; and support internationally competitive research.
 - d. Strategically invest in R&D by focussing on platform technology⁴ development, and encouraging government labs and academia to focus on longer-term, yet industrially relevant, research.

Recommendation 3: Expand successful programs that support commercialization by broadening and deepening the mandates of these programs (for example, the Industrial Research Assistance Program and Technology Partnerships Canada).

Proposed Implementation Strategies:

1. Harmonize and simplify funding programs. Use broad-based rather than specific criteria to evaluate proposals. Measure outcomes beyond commercialization (for example, measure productivity).
2. Attract more private sector investment through partnering.

Note: Access to capital was a priority for the group, despite that fact that no single recommendation related to access to capital emerged from the selection process. This was in part because the selection of the recommendations was dispersed across many alternatives. Nevertheless, the group noted that there is a distinct need for smart capital at all stages of commercialization. It was suggested that

4. Platform technologies are those “basic” technologies upon which other technologies and products are built (for example, software, advanced materials, and proteomics).

the three recommendations related to the Improve Access to Capital sub-issue in the *Discussion Guide*⁵ be implemented in order to provide smart capital at all stages of commercialization. Several participants suggested the establishment of a Prime Minister’s Council on Access to Capital.

Observations and Discussion

“Speed wins. Leadership matters. Markets pull.”

— Participant in Research, Development and Commercialization breakout session

“Enable the hiring and import of ... senior management personnel with commercialization expertise by providing a tax holiday for three to four years.”

— Participant in Research, Development and Commercialization breakout session

- Participants observed that the *Discussion Guide* recommendations and group deliberations focussed primarily on the R&D initiatives within universities. They encouraged more emphasis on the potential of businesses (large and small) and colleges to advance the level of R&D investment and commercialization.
- Delegates recognized that innovation is driven by market pull (global) **and** smart capital combined with technology push. In particular, they discussed the need for Canada to dramatically upgrade its receptor capacity (i.e. the capacity for firms to adopt and adapt new technologies into their organizations as part of a global business strategy). In this regard, they recommended the establishment of clusters and managed networks to sustain contact between business and academic groups, and to foster support for new and small companies.
- When considering financing, they stressed that individual and international investors, as well as domestic institutional investors, should be targeted.
- These delegates made the point that Canada’s intellectual property regime is below international standards, and commented that upgrading the intellectual property regime would increase commercialization in the private sector. Canada’s lack of international competitiveness in this area has the potential to discourage foreign investors’ allocation of intellectual property research to Canada. Canada’s intellectual property regime must be brought up to par with international standards.
- Delegates recommended the creation of a risk capital fund to commercialize proven post-development technology, with allotted institutional investors’ investment in “risky ventures” matched by equal government investment.

They also suggested that consideration be given to assigning a percentage of government spending toward government adoption and utilization of technology resulting from publicly funded R&D in order to accelerate their commercialization. Government adoption would endorse and validate the viability of such technologies.

5. These recommendations were: 1) encourage institutional investors to invest up to 5 percent of their capital base in early-stage commercialization and high-growth firms; 2) develop a critical mass of knowledgeable investors and managers in the banking and venture capital community; and 3) support the development of more seed capital, especially in small urban centres, by supporting venture capital firms, providing a broader choice of instruments for accessing capital, and deepening the capital base of firms.

Some table groups stressed that most recommendations are related to one another, and should be considered as groups of integrated initiatives that advance key features of innovation. For example, they objected to having to keep recommendations separate and to the “artificial” process of voting for three. The group encouraged all actors to review the breadth of recommendations and consider horizontal linkages between them before proceeding.

Participants concurred with one delegate’s statement, “Speed wins. Leadership matters. Markets pull.” Speed is the most important criterion in innovation, commercialization and implementation. Leadership is the second priority — and does not happen by accident. Thirdly, there is a need for market pull to respond to global opportunities. People, science and money are the three focuses. The government must facilitate and encourage a culture of risk taking that recognizes the importance of speed to market.

2. ENHANCING THE INNOVATION ENVIRONMENT

Delegates at the 10 round tables in this breakout session considered a total of 12 recommendations grouped under three sub-issues:

- 2.1 Support innovation through the tax system
- 2.2 Accelerate regulatory reform
- 2.3 Modernize the intellectual property regime

The rapporteur for this session was Elizabeth Beale, President and Chief Executive Officer of the Atlantic Provinces Economic Council.

Top Four Priority Recommendations and Proposed Implementation Strategies

Recommendation 1: Reduce or eliminate capital taxes at the federal and provincial levels.

Proposed Implementation Strategies:

Participants agreed this has been “studied to death” and that the recommendation should just be implemented; therefore, no implementation strategy was required. The phrase “Just do it” best describes the urgency and relevance of the issue.

Recommendation 2: Improve the functioning of the Scientific Research and Experimental Development (SR&ED) program.

“We should send a message that an innovative business climate is a system: fixing one or two things doesn’t fix the system. If we want an innovative economy we can’t choose between regulations and high taxes: we can’t have an innovative economy if either exists.”

*— Participant in
Enhancing the
Innovation Environment
breakout session*

Proposed Implementation Strategies:

1. Make tax credits fully refundable to all, including the backlog of SR&ED tax credits at the current rate (that is, make it retroactive).
2. Broaden the definition of R&D to include the commercialization of technology⁶ (i.e. bringing products to market).
3. Simplify the application process and documentation requirement for the SR&ED program.

Contrary to the recommendation in the *Discussion Guide*, breakout session participants agreed that the SR&ED program should not be removed from the *Income Tax Act* to be administered by a separate agency.

Participants' table reports recommended a time line for the implementation of this recommendation ranging from the next federal budget to within two years. Delegates also noted that implementing this recommendation could pose challenges. They projected that the government might argue that changing some aspects of the SR&ED tax credit program could create an immediate cash flow problem (particularly for refundability). However, participants countered that more R&D creates more jobs, which increases the tax base. They recommended that the Department of Finance Canada should quantify the short-term fiscal pain.

Delegates proposed mechanisms by which this recommendation could be implemented. Within two years, they would like to see a system with full neutrality with respect to an eligible firm's ownership structure on the refundability issue. Delegates would like to see immediate establishment of an ongoing working group to review eligibility. They would like to see government working with industry to prioritize the implementation plan. Finally, they would like to see a commercialization and education program to accompany the SR&ED program.

Delegates proposed roles for various players to implement this change. The federal government should make changes in R&D tax credit rules, discussing and working with industry where appropriate. The provincial government should cooperate with and match any federal government initiative. Industry should invest more, export more, and create more jobs. Universities should participate in industry R&D programs and training.

Recommendation 3: Develop new tax-based instruments to stimulate seed and early-stage investments (for example, tax credits for angel investors). (New technologies often accumulate tax benefits, but they need capital.)

6. There was some discussion of the definition of commercialization being used and how this might be clarified for the purpose of implementing this set of recommendations.

Proposed Implementation Strategies:

1. Give flow-through tax credits directly to individual investors from (unused) accelerated depreciation and SR&ED tax credits.
2. Investigate emulation of labour-sponsored tax incentives for individuals investing directly in start-up companies.⁷
3. Negotiate an amendment of the Canada–United States tax treaty to reciprocally eliminate withholding taxes on dividends and interest for foreign investors.

Delegates noted potential challenges to the implementation of Recommendation 3. They were concerned with how “angel investor” might be defined and they recommended that if incentives were to be instituted, the investment threshold should be low enough to include smaller investors. Delegates were concerned that provincial governments would not easily agree with the concept. Additionally, they emphasized that investors and local development agencies need to be engaged and educated regarding the implementation process.

Recommendation 4: Accelerate regulatory reform (to 2005).*Proposed Implementation Strategies:*

1. Pursue the framework laid out in the *Study of Cost Recovery Report of the Standing Committee on Finance* (Maurizio Bevilacqua, MP, Chairman, June 2000).
 - Focus should be on high return, sector by sector; acting fast and not duplicating efforts.
 - This requires responsible involvement of government, business and communities.
 - Reports on progress should be delivered every six months.
2. By January 2005, government should reshape the regulatory regime, sector by sector, to give Canada a competitive advantage. Priority should be given to sectors that can contribute most to the economy and that have the greatest capacity for growth. This reform requires ministerial sponsorship, and accountability at ministerial and deputy ministerial levels.

Participants agreed that the recommendations in the “accelerate regulatory reform” sub-issue on page 26 of the *Discussion Guide* fall under the implementation strategy proposed above, so they do not need to be singled out as separate recommendations.

7. Discussion from the floor questioned whether this incentive should be targeted to specific industries (such as knowledge-intensive industries) or activities. This recommendation would require further review before implementation.

In their table reports, delegates noted that implementation challenges may occur, specifically in the area of federal and provincial agreements, since, in their view, there is much duplication in federal–provincial and international regulations. They further cautioned that the use of advisory groups can cause stalemates and result in a lack of accountability.

Delegates suggested that a regulatory reform commission be created. They felt that there should be a cost-recovery strategy with respect to regulatory reform. Delegates implored government to choose from global best practices. They also suggested that departmental roadmaps, to include concrete implementation strategies, be developed and put in use by January 2005.

3. STRENGTHENING OUR LEARNING CULTURE

Delegates at the nine round tables in this breakout session deliberated on the 29 recommendations grouped under four sub-issues presented in the *Discussion Guide*:

- 3.1 Ensure access to learning opportunities
- 3.2 Encourage innovation and flexibility in the formal learning system
- 3.3 Promote careers in skilled trades
- 3.4 Support lifelong learning

The rapporteur for this breakout session was Wendy Newman, President of the Canadian Association of Public Libraries.

Top Four Priority Recommendations and Proposed Implementation Strategies

Recommendation 1: Establish a pan-Canadian literacy / essential skills development system, supported by federal, provincial and territorial governments. Establish programs to improve literacy and basic skills that are based on individual and community needs and interests.

Proposed Implementation Strategies:

1. Establish a Pan-Canadian Literacy Forum on the model of the Canadian Apprenticeship Forum, an independent, not-for-profit organization that would involve schools, post-secondary education, business, labour, provinces/territories, the voluntary sector and national literacy organizations.
2. Acknowledge the need for developing measures and standards, and regular progress reports.
3. Consider international models: assess the potential for adopting U.S. and U.K. models (such as the “No Child Left Behind Program” in the United States).

4. Obtain long-term, sustainable funding.
 - a. Invest for long-term, stable delivery for those who are marginalized.
 - b. Provide support (such as day care) to adult learners who are receiving help to upgrade their skills.
 - c. Develop sound public policy, supported by funding for community development.
 - d. Be clear about the funding targets (for example, earmark funds for child care).
 - e. Explore potential use of Employment Insurance (EI) funds.
 - f. Establish inter-ministerial cooperation to ensure seamless, long-term funding where the federal and provincial governments work in partnership to support programs financially.
5. Develop tools.
 - a. Research the use of innovative learning approaches and methodologies and the incorporation of technology. Emphasize access and content development in an e-learning context.
 - b. Use tools such as the training of service providers, sharing of best practices, technology, nationally licensed software, and broadband programming.

Recommendation 2: Integrate innovation-related skills in curriculums (including inter-disciplinary, cross-curricular, risk-taking, problem-solving approaches to learning).⁸

Proposed Implementation Strategies:

1. Develop and track indicators of innovation in learning.
2. Create a national task force on education in innovation skills, like the Broadband Task Force, to document existing processes, systems and agencies that teach innovation skills through formal and informal venues. These education topics include creativity, problem solving, experimental design, ethics, research development and commercialization.
 - a. Identify needs and barriers to the development of youth innovation, as well as existing formal and informal programs and best practices.
 - b. Develop indicators of innovation skills for both teachers and learners, and track achievement.
 - c. Track innovation skills through the soon-to-be-established Canadian Learning Institute.
 - d. Track innovation penetration in learning, using a process similar to that of The Conference Board of Canada's Index of Corporate Innovation.

8. One group wanted to broaden the recommendation to include informal education and to change the wording to: "Launch a sustained national program to promote the development of youth innovation and innovation-related skills (including interdisciplinary, cross-curricular, risk-taking, problem-solving approaches to learning) through formal and informal education."

- e. Establish a body to facilitate and evaluate submissions requesting funding for programs to develop youth innovation skills (perhaps modelled after the Natural Sciences and Engineering Research Council of Canada).
 - f. Provide sustained funding for organizations and programs that are effective in developing innovation awareness, experiences and engagement among youth.
 - g. Establish program development and implementation partnerships that involve federal and provincial funding, employer funding and work opportunities, and youth innovation organizations.
3. Build educators' capacity in innovation skills.
 - Instruct teachers at all levels of education in the delivery of innovation skills training.
 - Strengthen programs to build the competence of teachers, and provide ongoing professional development in innovation-related skills.

Recommendation 3: Adjust the system of student financial assistance to meet the changing needs of students, the post-secondary education sector, and the knowledge-based economy. Issues include assistance levels, debt and repayment, under-represented groups, and e-learning.

Proposed Implementation Strategies:

1. Enhance financial assistance for students. These could be:
 - a. savings-based (such as Registered Education Savings Plans and Registered Retirement Savings Plans)
 - b. needs-based
 - redesign needs assessment to recognize the full cost of study;
 - eliminate the clawback on institutional needs-based awards / financial assistance for adult learners;
 - develop a financial assistance program for adult students who have not attained a post-secondary education;
 - revise the financial aid system to recognize the implications of e-learning;
 - include more resources for part-time study.
 - c. merit-based (for example, rewards for excellence), with levels of assistance adjusted by grade point average.
2. Improve opportunities for study abroad.

Recommendation 4: Expand capacity in the post-secondary system by increasing infrastructure (physical, human and financial) using cost-effective design principles.

Proposed Implementation Strategies:

1. Create a “Post-Secondary Education Act” similar to the *Canada Health Act*.
 - a. Enact legislation or negotiate a federal–provincial accord on post-secondary education, similar to the *Canada Health Act*, to allow for transparency in post-secondary education funding, assure stability in funding, maintain accountability for spending, and ensure public, accessible post-secondary education for all Canadians who wish to pursue skills upgrading, training and academic programs.
 - b. Develop a national vision and national standards. Provide bold leadership to overcome traditional constitutional wrangling.
2. Create an assessment-based strategy with multiple points of accessibility.
3. Use marketing campaigns (such as “Participaction for the Brain”) for lifelong learning.
4. Enhance creative training and the teaching capacity of institutions in communities and workplaces.

Observations and Discussion

Participants in the Strengthening Our Learning Culture session emphasized the importance of national leadership in enhancing the skills of Canadians. Literacy and numeracy skills, as well as those related to innovation (including risk-taking and problem-solving skills), are key. Participants stressed the need for long-term approaches to enhancing the skills of Canadians, and noted the requirement for integrative solutions (for example, embedding the development of innovation-related skills in the curriculum).

Participants called for national leadership in providing financial support to individual students. They underlined the importance of enhancing the infrastructure of post-secondary education. This education must be made more inclusive, they felt. Therefore, part-time students must have access to financial assistance, including student loans.

4. BUILDING AN INCLUSIVE AND SKILLED WORK FORCE

In this breakout session, nine round tables reviewed 17 recommendations related to these sub-issues:

- 4.1 Increase the size of the labour force
- 4.2 Integrate immigrants into the work force
- 4.3 Invest in workplace training

The group's rapporteur was Shirley Seward, Chief Executive Officer of the Canadian Labour and Business Centre.

Top Three Priority Recommendations and Proposed Implementation Strategies

Recommendation 1: Increase the participation levels of under-employed groups (including women, youth, people with disabilities, visible minorities and Aboriginal people):

- Encourage the use of Prior Learning Assessment and Recognition (PLAR) through occupation-based collaborative projects to include non-formal and informal learning and skills.
- Improve access to training, apprenticeship and post-secondary internship programs to target Aboriginal people, persons with disabilities, new Canadians, and other under-employed groups.

Proposed Implementation Strategies:

1. Provide skills development to those who have never been in the work force or who have been out of it for over three years through partnership arrangements among governments and with stakeholders, such as through Labour Market Development Agreements (LMDAs).
2. Take a local, community-based "one-stop shopping" approach to advance local innovative priorities related to the participation of disadvantaged groups. This would allow community and local agencies to draw on the knowledge of their communities and community members' needs to create their own vision and strategies to access funding and achieve results.
3. Help adult Canadians, particularly disadvantaged groups, to better participate in the labour market through comprehensive career development and employment preparation.

Table discussions focussed on bringing a group of people into the employment and training circle, i.e., those who have never been employed or who have been out of work for three years. Delegates stressed that federal and provincial/territorial governments must coordinate their efforts so they can serve individuals in a more holistic fashion. They should stop treating people as a

provincial/territorial responsibility when they are in the school system or unemployed for more than three years, and as a federal responsibility when they are temporarily unemployed.

Table reports focussed on expanding skills development programs to meet the developmental needs of non-EI clients, including developing and implementing an “adult career development and employment preparation and support policy” to ensure services to all Canadians, including women, Aboriginal people, persons with disabilities, and visible minorities. A suggestion was also made to provide ongoing support to people who have completed programs, such as employment and life skills programs, in accordance with their needs.

Recommendation 2: Provide incentives and programs for individuals and organizations to increase in-house training and apprenticeship training carried out by industry:

- Use sector councils to channel workplace training programs.
- Create a new industry-led training corporation or a number of sectoral training bodies to champion and oversee training for trades and technical skills that are in high demand (make use of college and university programs as well).
- Expand apprenticeship programs and create more relevant industry training programs through partnerships and collaboration between industry, government and academic institutions.

Proposed Implementation Strategies:

1. Have all governments make maximum use of LMDAs in order to develop synergies with universities, colleges and other stakeholders.⁹
2. Develop a matched contribution program that would create a partnership between the federal government and industry to promote investments in training programs that meet national standards.
3. Encourage all stakeholders to continue to support existing partnerships that work, and create new ones only when a need is demonstrated (such as through labour market information).
4. Encourage industry to define training needs to better inform individuals about training choices, so people can see where they are, plan developmental steps, and progress over the course of their careers (rather than leaving it to individuals to identify employer expectations on their own).

9. It should be noted that not all round table groups agreed that LMDAs were the appropriate vehicle for this purpose.

Discussions considered the possibility of lowering the age at which Canadian youth embark on their apprenticeships. A participant asked how a Canadian apprentice, who by the age of 22 may have three or four years of work experience in his or her trade, can compete with a European apprentice who, by the same age, has seven years of experience (having started his or her apprenticeship at an earlier age). The discussion around this question focussed on the many barriers that currently keep people from entering apprenticeships. Delegates called for more pre-employment training to help people enter apprenticeships/trades, and more communications initiatives to enhance the status of skilled trades. At the same time, table report commentaries emphasized the need to provide incentives to industry to train more apprentices, including pegging employers' EI premiums to the amount of training they provide.

Recommendation 3: Undertake a comprehensive plan to improve the process for recognizing foreign credentials (for example, allow the process to begin overseas; coordinate credential evaluation processes; set up a single source of information on licensing requirements; establish norms for work experience; develop resources for employers; and use programs such as the Canadian Council for Human Resources in the Environment Industry).

Proposed Implementation Strategies:

1. Begin the foreign credential recognition process prior to the immigrant's arrival by:
 - establishing pre-settlement "one-stop shopping" (Web sites and physical kiosks) to provide immigrants with much-needed information, especially regarding the recognition of foreign credentials, as well as self-assessment techniques to help potential immigrants determine their suitability for entry into professions or trades; and
 - combining efforts of government regulatory bodies and colleges and universities (for example, defining and communicating licensing requirements and options for upgrading).
2. Encourage strong federal involvement (in cooperation with provinces/territories and stakeholders) in foreign credential recognition through the establishment of a mechanism to develop national standards for foreign credential recognition.

Discussions highlighted the importance of providing support for employers. Employers looking to recruit immigrants on the basis of their skills and abilities need access to their own "one-stop skills shop" in order to meet their individual human resource needs. Delegate discussion centred on the quid pro quo for employers in exchange for their help in providing more timely and helpful labour market information to potential immigrants. Table report comments underscored this point, calling for incentives to employers to provide internships, work experience and on-the-job training for new immigrants.

Other comments called for strong federal leadership to support the development of a multi-stakeholder national body. It would be responsible for setting and implementing national standards for the recognition of foreign credentials, assessment, training and work experience necessary for individuals' entry (or re-entry) into occupations, and for providing at least some language training for people in the process of moving to Canada, prior to their arrival.

5. STRENGTHENING COMMUNITIES

Delegates at 10 round tables in this breakout session reviewed 19 recommendations relating to these sub-issues:

- 5.1 Support the development and growth of clusters
- 5.2 Extend broadband access
- 5.3 Build learning and innovative communities
- 5.4 Strengthen rural/Aboriginal communities

The rapporteur for this group was Greg Barratt, President of Communitech.

Top Four Priority Recommendations¹⁰ and Proposed Implementation Strategies

To support the development and growth of clusters:

Recommendation 1: Collaborate with local (rural, urban and Aboriginal) social, economic and community development stakeholders across municipal, business, voluntary and non-governmental organization sectors to prepare long-term community innovation plans and strategies.

Recommendation 2: Support the growth of clusters by fostering the development of local “kernel” research institutions and schools, facilitating cross-community partnerships, providing information on best practices for building clusters and creating entrepreneurial networks; and capitalizing on the benefits and synergies of geography to encourage spinoffs, innovation, and the dissemination of ideas.¹¹

Proposed Implementation Strategies:

1. Inventory and disseminate best practices to enable communities to develop their residents and themselves.
2. Provide seed funding (from all levels of governments, working together) to support community-initiated activities.

¹⁰ In some cases, the recommendations were reworked to include ideas discussed and agreed to by delegates in the breakout session.

¹¹ A similar recommendation was the first priority identified in the breakout session on Improving Research, Development and Commercialization.

3. Include communities without universities in funding allocation criteria.
4. Build information architecture for knowledge transfer.
5. Support social science research on community development.

Note: Although tables were assigned priorities to discuss, delegates were given the option to join the tables or priorities that interested them most. Almost 50 percent of the delegates chose to discuss supporting the development and growth of clusters.

To extend broadband access:

Recommendation 3: Extend broadband access across the country and into rural and remote areas (according to community-specific access needs) to bring cultural, social (e-health), economic (e-business), and learning (e-learning) communities of interest together to encourage dissemination, implementation and customization of community solutions (e-everything).

Proposed Implementation Strategies:

1. Cross-subsidize communities to extend broadband to communities that do not have it.
2. Reflect local and regional priorities through a community planning process.
3. Ensure inclusion of all community stakeholders, to ensure sustainability.
4. Ensure equitable access to all members of society.
5. Balance federal–provincial/territorial intervention with community initiatives.
6. Revisit timing of delivery of broadband to remote areas.
7. Include an in-kind contribution program to bring in the private sector.

To strengthen rural and Aboriginal communities:

Recommendation 4: Enhance the learning capacity of children, youth and adults in rural and Aboriginal communities by providing support programs and educational opportunities tailored to the needs of the local community. Develop content to match technology; establish local centres of excellence; set up strong schools; establish community access centres; increase broadband to support distance education; engage young people in actual innovation; and increase access to capital (for example, through tax-free bonds).

Proposed Implementation Strategies:

1. Facilitate local think-tanks to identify innovative opportunities, follow through with seed capital to build capacity, and encourage better access to capital funds (to be done by all levels of government).
2. Provide funding for basic infrastructure (housing, roads, electricity, etc.).
3. Improve synergies among federal departments sharing a common rural/Aboriginal objective (Health Canada, Industry Canada, Human Resources Development Canada, and Indian and Northern Affairs Canada).
4. Provide literacy programming in response to specific community needs.
5. Encourage collaboration among all education stakeholders.

The breakout group also recommended the following (although these did not make it into the top four recommendations):

- Invest in core municipal infrastructure (for example, transportation, health, education and culture) to attract and retain investment.
- Research talent, entrepreneurs, skilled workers and immigrants.
- Establish local-level initiatives that welcome new immigrants and meet the cultural and resource needs of immigrant families (for example, by developing comprehensive plans to guide their professional, cultural and social integration).
- Encourage venture capital funds to invest in Aboriginal and rural communities.

Observations and Discussion

Delegates emphasized that effective community development must be community-driven, promote inclusivity, provide access to information and learning, encourage collaborative support, incorporate social and economic development planning, and build from local leadership.

Community-driven

- Communities must be allowed to identify their own needs, and must have access to the support they require to address those needs.
- Opportunities come from communities driving their own initiatives and finding the encouragement they need to pursue their initiatives.
- Money does not necessarily give communities all they need to be a key piece of *Canada's Innovation Strategy*.

“Communities need to be in charge of their own destiny... . Access to information allows them to manage themselves.”

— Participant in the Strengthening Communities breakout session

- Different communities have different needs (for example, Aboriginal communities may need literacy programs in addition to funding for schools and teachers); all communities should be supported.

Inclusivity

- Inclusivity refers both to specific disadvantaged communities, such as the Aboriginal and rural communities, and to individual groups, such as young people.
- Collaboration and community inclusivity involving all stakeholders is crucial to sustainability.
- Broadband is a means to an end, to include communities as a key part of the *Innovation Strategy*.
- All members of society must have equitable access to broadband and infrastructure.

Information as an enabler

- Community-level availability of information about the various government programs is as important as, if not more important than, the actual programs themselves.
- With access to information, communities will be able to determine for themselves what they need.
- Information helps with economic development planning and enables communities to learn from one another.
- Information on business operations and best practices is almost more precious than capital.

Support through collaboration

- Federal, provincial/territorial and municipal governments, along with local stakeholders, must work together.
- Participants debated whether local stakeholders should contribute funds, or if all funds should come from government. Delegates said that local stakeholders do need to contribute, and that seed money may be required from governments.
- Communities must be open to working with each other and sharing best practices for technology and knowledge transfer.
- Within communities, collaboration is key: businesses can help other businesses to increase hands-on learning.
- Government should be involved with communities to assist them in urban-stage development planning.
- There must be coordination between levels of government as well as between government and education stakeholders. All must work together to help communities help themselves.

Social and economic development planning

- Clusters are often thought of only in economic terms, but social development should be considered as important as economic development.
- Networking and clusters should not replace or ignore the needs and importance of the “social” community.
- Research might be key, but without the proper levels of education, only a few people can take part in cluster activity. Look beyond what is needed to make the clusters stronger. Include all stakeholders in the community.

Local leadership

- Local leadership is key to cluster development.
- There is a need to nurture and develop local leadership.
- The voluntary sector is a key contributor to local leadership.
- Leadership is not about picking winners.
- Leadership and capacity must come from communities.

AFTERNOON BREAKOUT SESSIONS: IDENTIFYING KEY CHALLENGES TO INNOVATION AND LEARNING

The summit agenda included a working component structured around four thematic topics with particular relevance to the innovation and learning agenda. Each was moderated by an expert in his or her field, and included presentations from two to four panellists. Each of these luncheon sessions took slightly different forms, but they shared similar objectives. Over the 90 minutes scheduled for this activity, some sessions had much discussion and few presentations; others consisted of many presentations and little discussion. The following summaries provide highlights and key points that represent the presentations and discussions. For biographies of moderators and panellists, refer to Appendix 7.

1. MOBILIZING COMMUNITIES

Objectives: The objectives of this working session were to describe the key building blocks for the development of community action plans, and to discuss approaches to mobilizing resources and networks to create innovative and learning communities in Canada.

Key Discussion Questions:

1. What are the critical success factors in mobilizing communities?
2. How can communities achieve self-sustaining networks and partnerships?
3. How can communities build capacity to address learning and innovation needs?

Moderator: Jim Knight, Chief Executive Officer, Federation of Canadian Municipalities

- Panellists:**
1. Gwen Friedrich, Executive Director, Community Outreach Group Inc., and President of the Regina Urban Entrepreneurs with Disabilities Loan Program
 2. Jeffrey Dale, President, Ottawa Carleton Research and Innovation (OCRI)

In his moderator's remarks, Jim Knight, Chief Executive Officer of the Federation of Canadian Municipalities, underscored the centrality of communities to Canada's innovation and learning vision. Success in the global marketplace requires those communities that wish to be globally competitive to be intensely localized. Moreover, according to Mr. Knight, community networks and clusters are not only located in close geographical proximity to each other, they are also rooted in the social and cultural context of the communities that sustain them.

“Through cooperation, we are growing stronger every day.”

— Slogan for the
Community Outreach
Group, Inc., Saskatchewan

In her presentation, “The Power of Partnerships,” Gwen Friedrich chronicled the story of the Community Outreach Group, whose client base comprises 84,000 people — disenfranchised youth and those with disabilities who live in rural Saskatchewan. The aim of this group is to use the Internet as a primary service provider to reach these sectors without duplication of services. She showed how the Internet, specifically the use of the Internet for e-learning in mentoring, employability training, the acquisition of new skills, and business development, can actually create communities that link people together across great distances. By these means, e-learning is not only a vehicle for people with disabilities living in remote regions to overcome their feeling of isolation from their peers, it is also a way for them to access skills and resources and to contribute to the fabric of their community.

Ms. Friedrich emphasized that the real power of communities lies in cooperation. This refers to one group working to strengthen another group's services, rather than competing for its resources or duplicating its efforts. Cooperation requires that partnering organizations be the wind beneath each other's wings.

In his presentation, “Ottawa — An Innovative Community,” Jeffrey Dale focussed on the centrality of community, collaboration and competitiveness to innovation. (*Mr. Dale's presentation slides are reproduced in Appendix 6.*) He emphasized that innovation and its implementation occur at the community rather than the national level. Each community has different requirements and

therefore must apply different solutions, whether their innovation strengths revolve around high technology, tourism, telecommunications or something else. Programs designed to stimulate innovation and learning must be flexible and customized. Every nation is looking at innovation, so every country in the world is a competitor to Canadian communities. Establishing business clusters aids innovation and learning, said Mr. Dale. Clusters succeed when human resources, R&D capabilities, infrastructure, and the right business climate are all present. Advanced research will be one of the cornerstones of innovation. To accomplish Canada's goal of being one of the top five countries in the world in terms of R&D by 2010, Mr. Dale asserted that R&D needs to be converted into viable corporations that can deliver their products and services to global markets. Collaboration within a community and discussion of common issues make innovation a reality.

Ottawa Carleton Research and Innovation (OCRI) began as a high technology organization. It eventually partnered with educational institutions, and merged with the Ottawa Economic Development Corporation. OCRI's goal is to build links between business, local community leaders and academics. OCRI now has 700 members, an annual budget of \$12 million, and programs in many key sectors, including education, research, small business development and global marketing. Partners are involved in a school breakfast program, promotion of young people's literacy and providing technology coaches for classrooms. OCRI has collaborated on a number of projects to increase community access to the Internet. These include expansion of broadband access to Ottawa's rural areas for business enhancement, and provision of community Internet access sites in low-income areas.

OCRI assists in building Ottawa's talent pool by identifying the gap between the skills that are needed and the skills that are currently available. Currently, the greatest need is for skilled tradespeople, and efforts are being made to encourage young people to enter trades. OCRI also runs an Entrepreneurship Centre, which supports the establishment and development of small and medium-sized enterprises (SMEs). Approximately 5,000 people use the centre annually to learn how to launch a business. The economic payback is enormous, Mr. Dale informed the group.

An initiative is under way to brand Ottawa to targeted cities and market Ottawa globally. This will encourage businesses and corporations to choose Ottawa as a base.

In summary, Mr. Dale said that the key challenges are to improve Canada's global competitiveness, create an innovation pipeline for conversion of R&D to products and services, and launch more new businesses. Programs and support must be tailored to individual communities — tools must be provided to help them become more competitive. There is a need for regional specialization, diversification and cluster development. "We shouldn't create competition within Canada, we should be creating competition between Canada and the rest of the world," he said.

In response to the key questions for discussion, delegates focussed first on the critical success factors for mobilizing communities. It was agreed that communities need a champion in order to progress. They must engage in a process to create a vision and to generate community buy-in to implement that vision. Regional cooperation is needed; municipalities can achieve more by linking with other local communities than they can achieve on their own. Critical success factors include shared leadership, succession planning and mobilization of a volunteer network, said one group. Communities need the right data and knowledge of how they compare with others; this will encourage healthy competition.

In answering the second question, regarding strategies for achieving self-sustaining networks and partnerships, delegates remarked that self-sustaining partnerships are achieved by involving many sectors of the community at different levels, including NGOs, provincial government and international organizations. Business community partnerships should be developed to set community priorities and to ensure the community is fully engaged with different sectors.

In addressing the question of how communities build capacity to address learning and innovation needs, participants stressed that “one size fits all” approaches do not work. Delegates recognized that success factors that apply to large cities do not apply to small, rural communities; still, lessons can be learned from the successful strategies of other communities. To build capacity, some participants agreed that families should be provided with opportunities to interact, from young to old, so we can create a population whose culture supports innovation. There is also a need to develop entrepreneurial skills.

Government’s role is to provide networks and tools to make communities innovative. To be successful, all community stakeholders must have a good understanding of the priorities. Also, an inclusive environment must be established, in which all community sectors, including the marginalized, are present. Group support for communities might be based on similar interests rather than on geographic location. To improve the lives of Aboriginal people, “community” must be put back into the equation and back on the government’s agenda.

Mr. Knight summed up the breakout session on mobilizing communities, which demonstrated how leadership works to do this. Innovation and learning are all about communities and community action. Federal and provincial governments have the important role of providing resources and dollars to build a framework and support. Communities must be empowered, however, and not restricted in how they mobilize themselves to advance. The contribution of Canada’s large cities must not be overlooked — we must embrace all Canadian communities, small and large. Mr. Knight concluded by repeating that there is a clear need for untied resources. Canada is a highly centralized country, and communities are not adequately empowered. Governments must

entrust decisions to their communities, and the best results will be obtained with this framework. He concluded that it is difficult to know from the centre how the periphery feels, but it's the periphery that really matters.

2. IMMIGRATION

Objectives: The objective of this working session was to address key issues in the attraction, selection and integration of immigrants, and to discuss priorities for action on key Canadian immigration initiatives.

Key Discussion Questions:

1. What role can stakeholders play in the attraction and selection of skilled immigrants?
2. What are the areas for partnership for facilitating the integration of immigrants?

Moderator: Dr. David Zussman, President, Public Policy Forum

Panellists:

1. Denis Coderre, Minister of Citizenship and Immigration
2. Naomi Alboim, Fellow, School of Policy Studies, Queen's University
3. Grant Trump, President and Chief Executive Officer, Canadian Council for Human Resources in the Environment Industry

Citizenship and Immigration Minister Denis Coderre opened this workshop by reminding participants of the government's commitments in the 2002 Speech from the Throne that illustrate the importance of immigration to Canada's economic and social development. While stressing the importance of fulfilling our international responsibilities, he noted that attracting immigrants is now competitive. Minister Coderre said Canada must be sure to attract and retain highly skilled workers to fill job vacancies across the country. We must also ensure that the education and experience of these individuals are recognized and used when they arrive in Canada. The Minister closed with the reminder that we must balance openness and ensure that regions and employers get the people they need, while maintaining continued vigilance on health and security issues.

Session moderator David Zussman then introduced the two speakers, Naomi Alboim and Grant Trump.

In her presentation, "Fulfilling the Promise: Integrating Immigrant Skills into the Canadian Economy," Naomi Alboim outlined a "systems approach" to help skilled immigrants enter the Canadian labour market. (*Ms. Alboim's presentation is reproduced in Appendix 6.*) She noted that helping to ensure that newcomers to Canada integrate well is the key to making Canada a destination of choice for highly skilled workers. All players must participate, "buck passing" must stop

"If we want innovation, we need immigration. Whether it's skilled workers or students, we need to look at immigration so, in the end, we can have results."

— *The Honourable Denis Coderre, Minister of Citizenship and Immigration*

between jurisdictions, and we need to identify and focus on gaps in our current processes, while building on the good practices we have.

According to Ms. Alboim's model, skilled immigrants could be attracted with offers of supports such as access to information, assessment of their skills and credentials, and expert advice — prior to their arrival in Canada — through an Internet portal and integrated bridging programs to fill identified gaps. This process could be accessed both by potential immigrants before they arrive in Canada, and by immigrants who are already here.

Through an Internet portal, skilled immigrants could begin to have their academic qualifications, occupational and language skills, and their awareness of Canadian workplace practices assessed while they are still in their home countries, in order to identify any gaps that need to be addressed before starting work in Canada. They could also be matched up with a Canadian mentor in their field to guide them. Once in Canada, skilled workers would gain access to labour market counselling, and develop learning plans to address the gaps identified in the assessment process. Integrated bridging programs could then help them access the academic courses, occupation-specific language training, technical skills upgrading or exposure to Canadian workplace practices they need. Some of this training could potentially be received on-line, or on campuses in their home countries through Canadian post-secondary institutions abroad. Under Ms. Aboim's scheme, employers, for their part, would be given incentives to provide workplace opportunities for immigrants, which would ensure a supply of highly skilled recruits prepared to make a transition to the Canadian labour market.

In his presentation, "Immigration," Grant Trump used the Canadian Council for Human Resources in the Environment Industry's immigration pilot project to illustrate how industry groups can more effectively attract and retain skilled immigrants. He emphasized the employer connection by suggesting that the key to a successful immigration project is employer–employee partnerships. (*Mr. Trump's presentation slides are reproduced in Appendix 6.*) Mr. Trump's proposed process entails a matching service to connect interested employers with high-potential skilled foreign workers. It focusses on potential immigrants who are "work-ready," as well as those whose skills require some upgrading. He presented a six-step process, which could be used in numerous industry sectors: 1) initial contact, 2) documentation of competencies, 3) electronic comparison with Canadian "National Occupational Standards" and Gap Analysis, 4) preparation of individual human resource plans, 5) ongoing monitoring, and 6) matching services.

In closing, Mr. Trump stressed the critical need for employers, sectors and sector councils to work cooperatively with other players, and to make the best use of existing programs. These include the Provincial Nominee Program and the Temporary Foreign Worker Program. Players should also

work internationally with Canadian consulates and embassies and with the education sector, such as the Canadian Education Centre Worldwide sites, he said.

Following these presentations, participants held table discussions to identify priorities for Canada in order to meet the goals set out in *Achieving Excellence* and *Knowledge Matters*. In reporting back on their discussions, participants noted the following issues and priorities:

- Canada needs an overall plan on immigration.
- For employers, time is of the essence; therefore, speed in processing both temporary and permanent workers is critical.
- Language skills are key, and for many qualified immigrants this may be their only limitation.
- Immigration is not a panacea, but a well-run immigration program benefits Canada.
- Universities need to be better linked to the immigration system. The high cost of university tuition for foreign students could be a disincentive to attracting more international students.
- Immigrants need information on smaller communities, but jobs and socio-cultural supports are also key to getting people into centres across Canada.
- A Web portal is needed to provide general and sector-specific information from a central place.
- Policy cannot be biased toward the university-educated — skilled tradespeople are also greatly needed.
- Funding must be increased and find its way to organizations that deliver services.
- Foreign credentials and experience must be better recognized, and the process must begin before people arrive in Canada.
- Attraction, selection and integration are mutually complimentary, and we need all of them for the system to work and to attract the best.

In his moderator's report, David Zussman underscored the importance of providing a supply of timely Canadian labour market information to would-be immigrants, and of assisting Canadian employers looking to recruit. These can ensure that we facilitate the entry of skilled individuals. Mr. Zussman also emphasized the importance of recognizing foreign credentials and of modernizing our assessment processes to determine the skills and suitability of potential immigrants to Canada.

Mr. Zussman went further by drawing attention to the costs associated with losing foreign talent after we have recruited these individuals to Canada. Once we have attracted new immigrants to this country, Mr. Zussman suggested, we need to do a better job of retaining them, by providing avenues for them to use and upgrade their skills, including their language abilities. He noted, finally, that appropriate social and cultural support is required in order for newcomers to Canada to feel welcome in regions across the country.

Further, participants indicated priority areas where new action can facilitate the immigration process. These include

- a needs assessment of Canadian immigration policies with a view to the possible establishment of a coherent and efficient national process for foreign credential recognition and skills upgrading for immigrants;
- the provision of comprehensive information on labour markets across Canada;
- the development of a foreign recruitment process; and
- the provision of support to multicultural centres to assist immigrants within communities.

3. LIFE SCIENCES, BIOTECHNOLOGY AND HEALTH INNOVATION

Objectives: The objective of this working session was to address barriers to research, investment and innovation in health and life sciences, and to discuss how to overcome these barriers in order to increase both health and economic benefits for Canadians.

Moderator: Dr. Henry Friesen, Chairman, Genome Canada

Panellists:

1. J. Mark Lievonon, President, Aventis Pasteur Ltd., and Chair, BIOTECCanada
2. Dr. Alan Bernstein, President, Canadian Institutes of Health Research
3. François Arcand, President, Medicago Inc.

In his opening remarks for the session, Dr. Henry Friesen highlighted the sentiment that there is a huge opportunity for health innovation. To capitalize on it requires alignment — Canada must focus on ensuring that Canadian discoveries are developed sufficiently so that the value-added potential is captured for Canadian benefit. Change management, which is important for this sector, requires political and institutional leadership at the highest level. (*Dr. Friesen's presentation is reproduced in Appendix 6.*)

Mark Lievonon, of BIOTECCanada and Aventis Pasteur Ltd., laid out the key challenges facing the biotechnology industry: the need for multidisciplinary biotechnology workers; access to the best biotechnology scientists and workers through immigration; the up-front costs of research; and barriers to commercialization, such as the high capital investment required for product development. Other challenges include prolonged regulatory approval periods, internationally competitive intellectual property protection, patenting processes, the patent review board and current health care purchasing policies. Mr. Lievonon stated that government should focus on providing the elements necessary for clusters to succeed, pointing out that in the biotechnology sector, clusters are developing naturally where skills, facilities and common interests exist. Government, academia

and industry need to work with a common alignment of national strategic intent. This, he said, will enable innovation to become the path to prosperity. *(Mr. Lievonen's presentation slides are reproduced in Appendix 6.)*

Dr. Alan Bernstein, founding president of the Canadian Institutes of Health Research, noted that health science is Canada's largest industry (more than \$100 billion), as it is in many other countries. All nations are in a revolution when it comes to health research. Health science has moved from homogeneous disease identification and patient treatment to individual patients and diseases. Canada is a world leader in proteomics, a very complicated and expensive science, that was made possible through strong financial support. Dr. Bernstein explained that it is vital to break down silos that separate academia, industry, government, patients, investors and others. Health research is a subject around which all stakeholders can gather, because of the benefits of health research — the returns on investment and the potential for spinoff companies. Canada's health system must include synergistic partnerships among governments, the health system, and the private sector; a multisectoral approach to commercialization; new approaches to education and training; development of Centres of Health Innovation to break down geographic and sectoral silos and be a "beacon of innovation" in the health system; and alignment of vision, objectives and accountability between government, industries and agencies. *(Dr. Bernstein's presentation slides are reproduced in Appendix 6.)*

François Arcand, co-founder of Medicago, described his company's creation of inhaled drugs, regular protein-based oral drugs, and veterinary drugs that are administered with plant material. These drugs will be in the first phase of clinical trials by 2005, and are currently produced in controlled greenhouses. Mass production will require a move into open fields. Mr. Arcand outlined his two options for moving to mass production: sell the raw materials and resources cheaply, then buy them back at higher prices as pills; or produce the finished product in Canada. He challenged Canada to develop its own biopharma products. He demonstrated graphically that Canada has a tendency to sell too soon and thus forfeit long-term returns on investment; we put our money into developing compounds that are sold, along with the rights and the company. He added that Canada has good companies with small quantities of compounds, and suggested that these companies should look into expanding production capacity to produce the greater quantities for which demand will grow. Bio-made in Canada is a proposed program to support the development of biopharmaceuticals in Canada, rather than just their initial compounds. Mr. Arcand stressed that Technology Partnerships Canada is important for larger companies, but it should be adapted for smaller companies and knowledge-based projects. Manufacturing must be included in the Biotechnology Drug Development Accelerator. The goals should be improved health and global markets. *(Mr. Arcand's presentation slides are reproduced in Appendix 6.)*

In addressing the session, Minister McLellan stressed the importance of a smart regulatory regime. “Government must discharge its responsibility for regulation and be smart about it,” she said, “to ensure the safety and well-being of Canadians — not to say we can’t be innovative about it.” She said that Health Canada is consulting on a model to put in place, particularly regarding drug approvals, in the new year.

Priority messages from the workshop include the following:

- “Think Big” should be an underlying philosophy of the life science, biotechnology and health innovation sector. The goal should be to create a large biotechnology/health company in Canada. Our record to date is poor. Our companies are small and struggling in the present economic environment. Those that show promise of future product commercialization are quickly being sold to foreign interests. This brings us to a fundamental question: Are our tax dollars supporting biotechnology and health research to be commercialized in foreign countries?
- We need to seek ministerial endorsement of the “Friesen doctrine” that investing in biotechnology and health research is an opportunity. Examples of spillovers from health research abound; new companies and new services are constantly being created (for example, in telehealth and biometrics). This activity benefits society and strengthens the economy.
- We need to develop risk tolerance in Canada, especially among venture capital and institutional investors. One participant called for a tripling of the amount of venture capital, rather than increasing the amount of funding for commercialization available to universities. In addition, there needs to be growth in receptor capacity, currently lacking in the health sector. As well, research must be pulled from those who create it to those who can use and exploit it.
- The group felt that another innovation and learning summit should be held in less than two years. Things happen fast, and time is especially crucial in the life sciences, biotechnology and health innovation sector. Participants underscored that commitment to health innovation, health services, health software, etc. requires a national effort.

“Our biotechnology companies are too small and need collaborative support.”

— Summit delegate

4. ENVIRONMENT AND CLEAN ENERGY

Objective: The objectives of this working session were to consider long-term opportunities regarding the environment and energy (for example, clean energy, eco-efficiency and energy-efficiency); to address how to ensure that Canada seizes these opportunities; and to discuss ways to encourage leadership and excellence in corporate sustainability.

Key Discussion Questions:

1. Why should the environment be included in the *Innovation Strategy*?
2. What are the barriers to improved environmental and innovation performance?
3. What are some concrete, practical actions and opportunities in terms of environment and clean energy that can be included in the overall national innovation action plan?

Moderator: David Joseph McGuinty, President and Chief Executive Officer, National Round Table on the Environment and the Economy

Panellists:

1. Richard Smith, President and Chief Executive Officer, Dow AgroSciences Canada, and Chair of the Board of Bio-Products Canada
2. Dr. Stuart Lyon Smith, Chairman, Ensyn Technologies Inc.
3. Richard Adamson, Senior Vice-President, Mariah Energy Corporation
4. Dr. Victoria J. Sharpe, President and Chief Executive Officer, Sustainable Development Technology Canada

The four panellists represented different aspects of environmental and clean energy businesses and institutions. Moderator David McGuinty opened the session by indicating that there were a number of profound linkages between innovation and the environment. He highlighted a number of key factors that, taken together, underscore the importance of including environmental objectives as an integral component of the *Innovation Strategy*. These include:

- cost savings (for example, through the recycling and re-use of waste);
- environment and health linkages (which affect quality of life);
- eco-services (biodiversity as an asset);
- export potential (particularly for environment-friendly technologies); and
- environmental performance and market share (poor performance is often linked with loss of market share).

Richard Smith spoke of the enormous potential for the bio-based economy. He focussed on the tremendous opportunities for Canada in the application of highly efficient bio-processes and use of sustainable, renewable bio-resources in a broad range of bio-products and eco-industrial clusters, enhancements to human and environmental health, and growth opportunities for rural economies and communities. Mr. Smith presented a systems approach to understanding the bio-based economy and, in particular, the linkages between biology (for example, sources of materials) and engineering (for example, extraction and refinement). He pointed out that the Canadian bio-products industry currently comprises about 100 companies across all regions, including

major forest products firms, and noted that its growth depends on the collective efforts of private and public sectors. Competitors in the United States, United Kingdom, Japan and Australia are acting to accelerate growth in this area. Based on a comprehensive framework to advance the bio-based economy, Mr. Smith's recommendations for action include the following:

- Support coordination and collaboration among the players, through mechanisms such as BioProducts Canada.
- Provide national leadership and increase public awareness regarding the bio-based economy, perhaps through a national expert panel (for example, the Prime Minister's Advisory Council on Science and Technology).
- Increase government procurement of bio-based products.
- Develop required skill sets, including cross-training in biology and engineering.

(Richard Smith's presentation slides are reproduced in Appendix 6.)

Stuart Smith indicated that an innovation strategy that does not take into account the environment is obsolete before it begins. He emphasized that business knows this. He talked of the opportunities that the environment represents, and suggested a number of ways in which governments could assist corporations in realizing those opportunities. Dr. Smith made a number of recommendations on how to integrate the environment into the *Innovation Strategy* and action plan, including the following:

- Encourage public sector purchase of environmental products, processes and services, and increase support for commercialization of new products and technologies (for example, through existing mechanisms such as Technology Partnerships Canada, Technology Early Action Measures, and Sustainable Development Technology Canada).
- Support the development of human resources required for firms to integrate environmental objectives into business planning and engineering (for example, environmental curriculums in business and engineering degrees).
- Establish a "Biological Survey of Canada" to provide essential scientific knowledge on DNA to underpin and support economic growth in the "bio-science century."
- Encourage development of ecological fiscal reform to link environmental performance with taxation, economic regulations and policies.
- Recognize and reward businesses that produce clear reports on environmental and sustainable development practices.
- Build public support for measures that link innovation and environmental objectives, including clear indicators of environmental and sustainable development performance and a new system of national accounts that includes natural capital.

Richard Adamson focussed his presentation on innovation challenges and opportunities regarding clean energy technologies, particularly from the perspective of SMEs. He indicated that emission reductions and energy efficiency improvements are key change drivers for the energy industry, as well as for the economy in general. Mr. Adamson argued that technology and innovation are not ends in themselves. Rather, they are key tools to address challenges and to drive economic and environmental performance improvements across the economy, including in the energy sector. He pointed out a number of significant barriers to innovation and increased competitiveness, particularly in the area of clean energy technology. These include:

- cultural barriers (lack of willingness to collaborate, risk tolerance, leadership, etc.);
- skills barriers (lack of cross-training between business and engineering schools);
- innovation environment barriers (regulatory and tax issues); and
- barriers in access to capital.

Mr. Adamson emphasized the challenge of commercialization (a “valley of death” between prototype and marketplace entry), suggesting there were more than enough good technology prospects in the “innovation backlog,” and that more R&D is not the solution. He proposed that the Government of Canada needs to provide leadership toward a coherent goal (a clear “stake in the ground”), whether it relates to climate change or the hydrogen economy. Mr. Adamson was adamant that new R&D and technology assistance programs are not required. Rather, he indicated that existing programs (such as the Industrial Research Assistance Program [IRAP] and Program of Energy Research and Development [PERD]) and government labs need to be strengthened, and partnerships emphasized (including co-location with university and private sector research institutes). His overall conclusion was that focussed action by government and industry is needed to bring new clean energy technologies into the marketplace, nurturing them in Canada and selling them to the world. His statement on fuel cells summed up his views: “I hope it does not become the next American success story.” (*Mr. Adamson’s presentation slides are reproduced in Appendix 6.*)

Dr. Vicky Sharpe focussed on the wealth of existing opportunities and exciting new clean energy and sustainable development technologies across Canada. She noted that these range from energy exploration and utilization to waste management, transportation and emission controls. Dr. Sharpe emphasized the fundamental importance of partnerships and consortia, involving not only R&D performers but also financing partners and other key players along the innovation chain. She indicated that Sustainable Development Technology Canada received a great number of proposals in their first call, spanning from technology development and demonstration to commercialization, with projections for large reductions in greenhouse gas emissions.

Dr. Sharpe echoed Mr. Adamson's concerns about commercialization, and detailed the nature of the pre-venture capital gap and pre-IPO (initial public offering) gap on the innovation continuum. She also agreed with Mr. Adamson's point that the issue was not more R&D, but rather closing the gaps at the product demonstration–commercialization stage (pre-venture capital gap) and market ready product stage (pre-IPO gap). She indicated that the United States is far better at commercializing R&D, and noted the relatively low uptake of venture capital funding in Canada for energy and environment-related projects. In regard to solutions, Dr. Sharpe focussed on two principal areas:

- Increasing investment in the pre-venture capital gap by reducing:
 - development risk (for example, increasing support for demonstration and commercialization);
 - financial risk (for example, tax incentives for investors); and
 - market risk (for example, procurement or national incentives).
- Building capacity, including entrepreneurial excellence.

(Dr. Sharpe's presentation slides are reproduced in Appendix 6.)

Points raised in the discussion include the following:

- Canada's nuclear industry has provided proven technology for clean energy.
- Kyoto's international emissions trading mechanisms are already a factor in generating business opportunities both within Canada and for Canadian technology globally.
- Government procurement and ecological fiscal reform would help create market pull to get new environmental and clean energy technologies off the shelf.
- The critical importance of government labs was highlighted by several participants (particularly for SMEs), including expertise in departments such as Natural Resources Canada (NRCan) and the National Research Council Canada, programs such as IRAP and PERD, and the ability of government labs to take more risk and a longer-term perspective in supporting the early-stage development of technologies (for example, as NRCan did with Ballard and fuel cells).
- Direct foreign investment is needed to support Canadian environmental technology and clean energy businesses.
- There is a need to work with the investment community to support the commercialization of new technologies (i.e. through labour-sponsored venture capital funds, and pension funds).

David McGuinty concluded the session by noting the huge (and rapidly growing) international market for clean technologies for urban infrastructure. He also commented that “natural security” (economic opportunities associated with the environment) — a golden thread running through the session — is perhaps as important as national security.

In reporting to the plenary session, Richard Smith made the following points:

- Environmental objectives need to be an integral component of the *Innovation Strategy*.
- Canada has important advantages, and huge opportunities, to capitalize on in environmental and clean energy technologies. This is an area of tremendous global growth as we move quickly into the “bio-sciences century,” in which the environment, bio-economy, clean (carbon-constrained) energy and clean urban infrastructure will all play fundamental roles in our future economy and society.
- Governments have a key role to play in helping Canada position itself as a world leader in environmental technologies and clean energy. They can accelerate the commercialization of new knowledge and technologies through ecological fiscal reform; targeted investment in existing technology development, demonstration and commercialization programs; market demonstration and procurement; and increased support for public labs. Governments should also increase public awareness through a new system of national accounts that includes natural capital.
- Industry and investors need to develop and adopt new environment and clean energy technologies, and venture capitalists need to support this effort. Industry also needs to report on environmental and sustainable development practices and performance.
- Universities and colleges need to improve cross-disciplinary training of environmental science, business and engineering graduates to better support entrepreneurship and the integration of environmental objectives into business planning and performance reporting.



CLOSING PLENARY: NEXT STEPS FOR CANADA'S INNOVATION AND LEARNING AGENDA

Co-chairs Dr. Golden and Dr. Lajeunesse invited the rapporteurs from each of the morning break-out sessions to present the key recommendations and implementation strategies that emerged from their respective groups, after which luncheon session moderators highlighted the key issues arising from their panel discussions.

In her closing remarks, Anne Golden reflected on the crosscutting themes of the day: leadership, culture and performance. In this context, she announced the Index of Corporate Innovation (ICI), a new Conference Board of Canada tool designed to capture an organization's innovation leadership, culture and performance. This tool helps the private sector to improve its performance, build best practices, and ultimately turn innovation activity into profit and corporate success. The Conference Board intends to capture the attention of Bay Street, because this tool could help investors to credibly assess firms' innovative capabilities and performance. Over the next 6 to 12 months, the Conference Board will be taking this tool to the world. It will build a database of thousands of organizations, and allow firms to benchmark themselves against others around the world.

Dr. Golden noted that the premium placed on priority setting and implementation plans during the summit may have felt a bit constraining to many participants, but that this happens whenever we take the step of moving from talk to action. She assured the group, however, that the results and recommendations of the summit are in line with the priorities that emerged from the engagement process and those suggested by many experts in the field.

Dr. Lajeunesse summarized many of the concrete actions tabled over the day, including the commitment of universities to double their research capacity and triple the commercialization of ideas. He suggested that the time was right for further action, and implored participants to move, move in the right direction and move quickly.

In closing, the co-chairs acknowledged the risk that the summit organizers took in holding this event — and stated emphatically that that the risk had more than paid off. They again mentioned the extraordinary calibre of participants and the quality of participation at the summit, the alignment of intent, and the sense of confidence that Canada can be global best. In short, they declared the summit a resounding success.

The summit adjourned with final remarks by Minister Jane Stewart and Minister Allan Rock (see *Appendix 2*).

Next Steps

Minister Stewart concluded by reinforcing the importance of social cohesion and inclusivity as critical elements in economic competitiveness, emphasizing that “good social policy depends on good economic policy, and good economic policy depends on good social policy.” She stressed the role of the voluntary sector in providing leadership and solutions on the questions of innovation and learning. She also emphasized the importance of engaging young people in the areas of innovation and learning that directly affect them (such as financing mechanisms for post-secondary education), and the importance of continuing the momentum built during the engagement process and of building strengthened partnerships at the local level to focus on the power of individuals and communities.

In his closing remarks, Minister Rock referred to a summary document outlining the challenges and priorities for actions in relation to each of the elements of *Canada's Innovation Strategy*, including specific measures recommended during the day (see *Appendix 4*).

Among “early action” commitments on the part of the Government of Canada, the document highlighted the following:

- Increase support to granting councils for research and graduate students.
- Work with universities toward a solution on indirect costs and to develop commercialization strategies.
- Work with the private sector in the development and application of new technologies.
- *Framework of Agreed Principles* between the Association of Universities and Colleges of Canada (AUCC) and the federal government to govern cooperation on innovation targets — double research; triple commercialization.
- Continued support for R&D funding and indirect costs.
- Business Development Bank of Canada's \$50-million “fund of funds” to boost access to venture capital.
- Design fast-tracking procedures for highly skilled immigrants with job offers.

- Work with partners to break down impediments to the recognition of foreign credentials and support the integration of immigrants into the labour force.
- Work with provinces to remove barriers for persons with disabilities.
- Increase support to Aboriginal Business Canada, and invest in training programs to increase Aboriginal participation in major economic projects.
- Reallocate resources to help youth develop skills and pursue learning.
- New Prime Minister's Task Force on Women Entrepreneurs.
- Establish external committee on smart regulation to advise on priority regulatory reforms with a view to creating optimal conditions for innovation while protecting the public interest.
- Advance target date for key regulatory reviews from 2010 to 2005, with early action in the following areas:
 - Foreign ownership restrictions for telecommunications sector review by Standing Committee on Industry, Science and Technology.
 - Early action to address drug approvals process.
 - Section 92 Copyright Review currently under way in Parliament — will make recommendations on updating our intellectual property regime.
- Consult with provinces, territories and other stakeholders on the development of the Canadian Learning Institute to provide information to Canadians and inform decision making.
- Work with partners to promote the skilled trades as careers of choice.
- Promote innovative learning and skills development in the workplace, including literacy and essential skills.
- Work with provinces to enhance student financial assistance to improve access to post-secondary education, including for part-time study.
- Speech from the Throne commitment to establish a 10-year strategic infrastructure program, including an urban strategy.
- Target regional development activities and address distinct challenges of urban, rural and northern communities.
- Work with Canada's largest cities to reduce barriers faced by new immigrants in settling into their new communities.
- Promote entrepreneurial skills and job creation among Aboriginal people by increasing support for Aboriginal Business Canada.
- Further develop Canada's national cluster strategy.
- Accelerate broadband access.

He indicated that this document can serve as a concrete mission statement for the nation for the balance of the decade, and against which performance can be measured. In terms of next steps, Minister Rock committed to a series of published annual reports measuring the progress of Canada's economy against each of the actions decided on during the day. This would enable us to see, in concrete terms, whether or not we are meeting the expectations we have set for ourselves. He indicated that he and Minister Stewart would ensure that the outcome of the summit proceedings and its recommendations would be widely distributed in order that all relevant partners and stakeholders would have the opportunity to consider the impact on their own strategies and actions. He announced that working groups would be set up to provide strategic advice to government and to continue efforts in key challenge areas, such as those concerning access to risk capital and regulatory changes. Finally, he expressed the intention to reconvene a national summit in two years to "take stock of where we've been, measure progress and talk about next steps."

APPENDIX 1

SUMMIT PROGRAM

Monday, November 18, 2002

- 16:00 Registration** Harbour Ballroom Foyer (participants) and Regatta Room (observers)
- 17:30 Reception** Harbour Ballroom Foyer (participants) and Regatta Room (observers)
- 18:30 Summit Launch
and Dinner** Harbour Ballroom (participants) and Regatta Room (observers)

Address by the Right Honourable Jean Chrétien, Prime Minister of Canada

Welcome by the Honourable Allan Rock, Minister of Industry, and the Honourable Jane Stewart, Minister of Human Resources Development

Co-chaired by Dr. Anne Golden, President and Chief Executive Officer of The Conference Board of Canada, and Dr. Claude Lajeunesse, President of Ryerson University

Tuesday, November 19, 2002

- 07:00 Continental
Breakfast** Harbour Ballroom Foyer (participants) and Regatta Room (observers)
- 08:15 Plenary Session** Harbour Ballroom (participants) and Regatta Room (observers)
- 08:30 Remarks by the Honourable Allan Rock and the Honourable Jane Stewart**
- 09:10 Presentations on the Five Summit Themes**
Martha Piper, President of the University of British Columbia
Don Drummond, Senior Vice-President and Chief Economist, TD Financial Group
geneviève bich, Vice-President of Bell Canada Enterprises
Robert R. Blakely, Director of Canadian Affairs, Building and Construction Trades
Department, American Federation of Labour — Congress of Industrial Organizations
Raymond Ivany, President of the Nova Scotia Community College

10:00 Break**10:30 Breakout Sessions:** (participants only)

Improving Research, Development and Commercialization	Harbour Ballroom
Enhancing the Innovation Environment	Pier 4
Strengthening Our Learning Culture	Pier 5
Building an Inclusive and Skilled Work Force	Pier 2/3
Strengthening Communities	Pier 7/8

12:30 Lunch Break

(lunch provided at breakout rooms for participants and Regatta Room for observers)

13:00 Breakout Sessions: (participants only)**Identifying Key Challenges to Innovation and Learning**

Mobilizing Communities	Jim Knight, Moderator	Pier 7/8
Immigration	David Zussman, Moderator	Pier 4
Life Sciences, Biotechnology and Health Innovation	Henry Friesen, Moderator	Pier 2/3
Environment and Clean Energy	David J. McGuinty, Moderator	Pier 5

14:30 Break

15:00 Plenary Session Harbour Ballroom (participants) and Regatta Room (observers)

16:30 Next Steps for**Canada's Innovation**

and Learning Agenda Harbour Ballroom (participants) and Regatta Room (observers)

The Honourable Jane Stewart and the Honourable Allan Rock

17:00 Summit Adjourns



APPENDIX 2

SPEECHES

A. Opening address from the Right Honourable Jean Chrétien, Prime Minister of Canada

Delivered by the Honourable Jane Stewart, Minister of Human Resources Development

I am delighted to be here in Toronto this evening to open the National Summit on Innovation and Learning. The Summit is the culmination of months of discussion led by Jane Stewart and Allan Rock. They have been meeting with many of you — from labour, business, academic and community organizations.

This gathering is our opportunity to affirm our shared priorities, to challenge each other, and to chart the way forward. I assure you that my government will follow through on our end of the challenge, with energy and concrete action in the months ahead. We need you to do the same. We share the same goal: to build on Canada's strengths and make this country a model for the world. My cabinet and caucus colleagues are here to listen to you, on how together we will achieve the Canada we want.

Tonight I would like to talk with you about a five-point action plan on innovation, and about how we challenge ourselves to get there. First, we must make Canada a learning society, where learning and upgrading become continuous. Second, we must become a knowledge society that invests in ideas. Third, we have to improve how we bring ideas to market, creating clusters that link those who produce and those who apply knowledge. Fourth, we must work together on smart regulations that spur innovation. Finally, we need to draw on our diversity of talent, and we must underpin our plan with an urban strategy that will help create a quality of life in our communities that is second to none, and ensure Canada becomes a magnet for talent and investment from all over the globe. This action plan needs your input and commitment if it is to be realized.

I see it as a recipe for Canada's greatness — for achievements beyond what we have known, for I know in my head — and feel in my gut — that Canada is poised for greatness. Why do I think this? Look at our proud history. Struggles with hard winters and landscapes . . . political tests . . . wars; welcoming newcomers; valuing different perspectives; sharing burdens and opportunities.

*“I see it as a recipe
for Canada’s
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gut — that
Canada is poised
for greatness.”*

*— Prime Minister’s
Speech*

Through drive, accommodation and tolerance, our ancestors achieved great things. Out of these values and the drive to succeed, Canadians became creative, tough, and smart.

We established a tradition of getting really good at what we are good at: communication, transportation, resource extraction, environmental and health technologies. We are winners in many arenas.

And I am sensing an even stronger spirit of confidence right now. Quite simply, since the early '90s, we have had to be extremely disciplined and creative in responding to tough economic times and big political challenges. Together we have succeeded. I am proud of what we have accomplished while I have been your Prime Minister. And I remain impassioned about driving through on the next phase of my tenure.

Our nation is united. Our fiscal situation is sound: five consecutive balanced budgets, and on track for a sixth after 28 years of deficits. At present we are the only G7 country with a surplus. Nearly \$47 billion has been paid toward our national debt. Our debt-to-GDP ratio has fallen from 71 percent to 49 percent. Interest rates and inflation remain low. And we have made the largest tax cut in Canadian history — \$100 billion over five years. Our economic prospects are striking: in the first half of 2002, our economy grew at an annualized rate of more than five percent . . . strongest in the G7.

Both the International Monetary Fund (IMF) and the Organisation for Economic Co-operation and Development (OECD) project that Canada will outperform all of the G7 this year and next. Canadians are seeing improvements in their personal finances too: disposable income per capita has increased by nearly three percent in the last 12 months. A recent study by KPMG on the costs of doing business recently declared Canada to be the best place in the world right now for business investment. Canadian businessmen and -women, workers, our researchers, all have reason to feel proud, confident and gutsy.

And it is time to take bolder steps, because boosting productivity and world-beating success will require more of us, more of you.

1. A Learning Society

It starts with learning and literacy. Making Canada a learning society means putting people first, valuing their development at every stage of life, providing the tools and opportunities to grow and contribute.

Key to long-term productivity is investing in our kids. A few years back we introduced the National Child Benefit and increased the income of over 1.2 million families. We are now seeing a steady

“And it is time to take bolder steps, because boosting productivity and world-beating success will require more of us, more of you.”

decline in child poverty. Statistics Canada has just reported that the number of children living in low income families has decreased from 16.7 percent in 1996 to 12.5 percent in 2000 — a drop of 25 percent.

With provinces, we created the Early Childhood Development Agreement to strengthen services for young children, to help them get the best start. We created the Canada Millennium Scholarships to provide support to more than 27,000 Canadian students. We increased student loans and grants to help all students. The Trudeau Foundation assists our best and brightest students. We will do even more to ensure Canadian children are ready to learn and so young Canadians can excel.

But we need to create opportunities for every citizen to keep upgrading. Today's workplace requires people who adapt quickly to new products, new techniques, new software. I am saying to you tonight that business must invest in learning for their workers if they want to compete. Canada is not doing enough here. I challenge business and labour to jump on this imperative — for the sake of your workers, for the sake of your competitiveness. We must all do more. We must all do better. We need to set goals, measure and report on results, let our employees know we support them upgrading their skills. Just as workers must become learners, so must business, government, and the voluntary sector become learning organizations.

Over the long term, the decisions we make on how to invest in learning and skills must be based on higher quality information, on measuring learning achievements across the life cycle and across the country, and based on knowledge of what works and what doesn't.

I am confirming tonight that the federal government is prepared to work with its partners to develop the Canadian Learning Institute to create a locus for information and research on learning. But it will require a collaborative partnership with provinces and the private sector to make it work. Tonight I challenge all of us to get together and make this concept a reality.

2. A Knowledge Society

Canada is becoming a knowledge society: investing in research, advanced studies, multi-disciplinary approaches, new discoveries, new ideas, their application and commercialization. These elements are the fuel of the new economy. That is why we created the Canada Foundation for Innovation, Genome Canada, the Canadian Institutes of Health Research and the 2000 Canada Research Chairs. It is why we have boosted funding to all the granting councils to support our researchers.

“Just as workers must become learners, so must business, government, and the voluntary sector become learning organizations.”

We recognize that the knowledge pipeline must be continually fed. And we will do more. But business also has to invest more in research, and in the development of new ideas. The evidence shows that we are too risk-averse as investors in new products and processes. We need to be bolder. If we are not, the ideas that are thought up here will migrate, and create jobs somewhere else.

Tonight I am challenging the managers of the big investment funds to become more like the venture capitalists elsewhere, and do more to support the start-ups so the jobs stay here, so more talent wants to come here. Canadians deserve your backing — and your nerve.

No doubt about it, my government will continue to invest in research. We have committed to increased funding for graduate studies. And we are committed to supporting universities on the indirect costs of research. But we, and Canadian society, expect something back — Canadians want to know what results these investments are achieving. That is why I am pleased to announce that we have just concluded a Framework of Agreed Principles with the Association of Universities and Colleges of Canada (AUCC). Canadian universities have agreed to double the amount of research they perform, triple their commercialization performance, and contribute more to the economic and social development of their communities. The AUCC has responded to a challenge. I salute them, and look forward to the next phase in an important partnership.

3. Creating Clusters

Innovation demands investment in research and business clusters — where start-ups and established players can compete and collaborate, and feed off each other's energy, build on local strengths, on the Canadian advantage — and become world beaters in a host of areas: biotech, health, environment, culture, software. All of the players here for this summit need to be guided by this “cluster philosophy.”

My government is committed to it. We have acted — on projects like the \$120-million Nanotechnology Centre in Edmonton we announced last summer with the province of Alberta — and on many others. In the weeks and months ahead, we will be making more such concrete announcements to help create strategic clusters. Stay posted.

No one does a better job at applying knowledge — of bringing new ideas and products swiftly to market — than Canada's small and medium-sized enterprises (SMEs). SMEs have been by far the main source of job growth in Canada this past decade. Programs of the National Research Council have helped SMEs adopt new technologies and advanced manufacturing techniques. And we will do more.

“A knowledge society has to be smart about the regulations that guide activities and protect our quality of life. We must use regulation to spur innovation.”

“An innovative society is an inclusive society. It embraces the hopes of all of its members.”

4. Smart Regulation

A knowledge society has to be smart about the regulations that guide activities and protect our quality of life. We must use regulation to spur innovation. This is why we will be creating an External Advisory Committee on Smart Regulation. They will provide expert advice on combining stewardship with greater opportunity. We will be announcing the details very soon.

Smart regulation will include renewing our regulatory framework for new drug approvals. This will allow Canadians faster access to beneficial drugs. We know it will also improve the climate in Canada for research in pharmaceuticals. Anne McLellan will have more to say on a process to support this effort in the weeks ahead.

Our copyright regimes can better support investment in culture; our environmental approval process can be made more transparent and effective. Finally, government can ensure that complying with Canada Customs and Revenue becomes easier and quicker. That is why Minister Caplan is working to ensure a responsive, client-centred approach to service.

A number of you have been concerned about the flow of goods, services, and talent both ways across the Canada–U.S. border. So I am pleased to say that, through partnership and working hard for Canadian interests, we have made enormous progress. The Smart Border Declaration is a model of what we can achieve with our biggest market to the south.

My government is serious about smart regulation. We look forward to your advice and engagement on how we can use regulation to spur growth, innovation, and trade in these and other areas.

5. Diversity, Communities, Cities

An innovative society is an inclusive society. It embraces the hopes of all of its members. It welcomes newcomers. It supports the dreams of Aboriginal people and persons with disabilities. It invests in innovation in rural areas. It ensures women can succeed at the highest levels of society. It values diversity. For these are longstanding Canadian goals.

Canada must be the destination of choice for talented immigrants. We will break down the impediments to recognition of foreign credentials. We will fast-track skilled workers entering Canada with jobs waiting for them. And I commit our government to providing the resources necessary to recruit more aggressively through our embassies abroad and at foreign universities.

We will promote entrepreneurship among Aboriginal people by increasing support for Aboriginal Business Canada. And we will invest in targeted training programs to help Aboriginal and Inuit people be part of great opportunities such as Voisey’s Bay and northern gas pipelines.

Our government remains committed to fast-tracking a comprehensive agreement to remove barriers to participation in work and learning for persons with disabilities.

An innovative society values equality, and promotes opportunities for women in business and elsewhere. That is why I am very pleased to be announcing today the creation of a Prime Minister's Caucus Task Force on Women Entrepreneurs, to be headed by "Sam" [Sarmite] Bulte, who brought me this idea.

She will be looking into how Canada can attract and support more women in pursuing entrepreneurship. I am sure she will be talking to many of you about it in the days to come. Inclusion, openness, tolerance, diversity, bilingualism — these are key Canadian advantages.

When people feel accepted and valued for who they are, they feel good. They can feel excited. A "buzz" is created. This is when learning, originality and innovation flourish. I have always believed it. Research is now proving it. These values, this inclusive approach are key reasons why Canada is poised to take a huge step forward, for it is key to the quality of life in our communities and our cities.

Our cities indeed play an increasingly important role in our economic development. Their strength, their ability to compete, their ability to attract talent and investment is important to all of us. The federal government is therefore acting on an urban strategy. Working with other governments and players, for a sound urban strategy is the underpinning to all the other factors I have spoken of.

If we want to create clusters, draw talent, be inclusive, we must have world-class cities, must deal with congestion, smog, water and sewage, social problems. We must invest without delay in transit, housing, key infrastructure. That is why we have committed to a 10-year program for infrastructure. We are acting in each of these areas to improve our cities, and will do much more, soon.

Another element in a quality of life agenda is to move forward on Kyoto — for our children, for future generations. I know the topic causes unease for some — but the message from Canadians is overwhelming: we must take action. And we will.

It will be a challenge, yes — like beating the deficit, like creating medicare. Canadians took on those challenges as necessary political choices, and Canadians know what the right political choice is here, and that we are up to this challenge as well.

Innovation will be essential to meeting our climate change targets. Believe me, all countries — including the U.S. — will be moving forward — to reduce emissions, to find less carbon-intensive means to grow their economies. The most innovative countries will be in the lead — producing

"If we want to create clusters, draw talent, be inclusive, we must have world-class cities."

cars that emit less, fuel that is cleaner, and energy-efficient technologies. By taking action now, our industries will gain a competitive edge.

We are refining our implementation strategy, talking with individual sectors about approaches designed to work in Canada, for Canadian firms, providing the certainty investors require. The federal government will lead by example: through investments in a partnership fund for climate change action; through encouraging the use of cleaner alternatives such as ethanol and biodiesel; and through the greening of our own operations, such as our large vehicle fleets, buildings, and so on. In the days and weeks ahead, you will see us taking concrete action on climate change in our own areas of responsibility and in partnership with industry, communities and provinces.

Fuel cells; renewable electricity; biofuels and products; energy-efficient buildings and houses — Canada has expertise in these areas. Making the right choices now will allow us to be ahead of the curve in North America and global markets. And all Canadians will benefit.

We will also apply learning and knowledge to enhance another Canadian advantage: health care. Our commitment to the number one priority of Canadians is unshakable. We will work with provinces to respond to Roy Romanow. We will develop a plan. And we will make the necessary investments to sustain medicare for the long term.

I am proud of the achievements of this government. Canadians are rightly proud. But there is much more to do. Government will continue to be a big player as we move forward to achieve our goals. The private sector has the larger role. We need your energy, your ideas and advice about learning, knowledge, and making Canada a magnet for the best the world has to offer. We need you to challenge yourselves every day as I have challenged you tonight.

Canada, indeed, can use ongoing advice about the big choices we must make on our innovation agenda. For this reason, I am revitalizing the Prime Minister's Advisory Council on Science and Technology. Allan Rock met with them just this afternoon, to seek their guidance on the eve of this important summit.

Becoming a learning society, a knowledge society, having smart regulations, creating clusters, valuing diversity, and moving forward on an urban strategy — a quality of life agenda for our communities — this is our Action Plan on Innovation.

I am pushing my government very hard on it, and seeing results. But we need you to push too. Acting on it together, I know, will ensure that Canada becomes a magnet for investment and talent, that it becomes the Canada we want. I know we can do it.

I wish you all well in your work in the day ahead. Thank you.

“We need you to challenge yourselves every day as I have challenged you tonight.”

SPEECHES

B. Opening address by the Honourable Allan Rock, Minister of Industry

Thank you, Claude. Good morning, ladies and gentlemen. Allow me to begin by saying “thank you.” First, to the co-presidents of the summit, Anne Golden and Claude Lajeunesse. You have not just been effective chairs, you have also been truly charming and for that I thank you. I would also like to thank my partner in all this, my colleague, my friend Jane Stewart. It’s hard in public life to find someone who brings to their duties the kind of conviction and the kind of heart that Jane Stewart brings to her role in one of the crucial portfolios of the Canadian government, and I can tell you it has been more than a pleasure, it’s been a privilege for me these many months to work in close partnership with Jane as we’ve shared the task of bringing you all here today. So, Jane, thank you for being such a great partner.

The Minister of Health, Anne McLellan, will soon be here today. Also, the Minister of Immigration and Citizenship, Denis Coderre, and I am also pleased to have with us this morning Elinor and Maurizio. Thank you. And oh, here is Denis.

I’d also like to thank Walt Lastewka for joining us. Walt is the chair of the Standing Committee of Parliament on Industry, Science and Technology. He has been with us every step of the way in this process. I’m delighted that Walt is here. Colleagues from caucus, Tony Valeri, Mac Harb, Peter Adams, Senator Joyce Fairbairn is here and Brian Fitzpatrick.

We learned a great deal from our partners in the provinces and territories, which themselves as you know are doing enormous work on innovation. When it comes to building a more productive society, we have both goodwill and common ground between us and I’m delighted that we have provincial counterparts here, including Rick Thorpe from British Columbia, Norm Betts from New Brunswick and Jake Ootes from the Northwest Territories. And from our partners in the cities I was delighted to see the mayors of Flin Flon and Edmonton and Gatineau, and last night the mayors of Montréal and Laval were here. They have now left but they were here for the speeches last night.

We’ve also benefited from the excellent work done by others, The Conference Board of Canada, the Association of Manufacturers and Exporters of Canada, the Information and Technology Association of Canada and people like Charles Baillie, who chaired the TD Forum on Competitiveness and the New Economy.

Well, like all of you, I’m deeply impressed not only by the breadth of the interests represented in this hall today but also by the sense of enthusiasm and commitment which is evident not only from



“When it comes to building a more productive society, we have both goodwill and common ground between us”

— Minister Allan Rock

your presence but from your participation. But I must tell you that at the table last night, in the corridors yesterday and this morning, there's talk of a danger here. There's worry. There's worry that for all the effort, all the analysis, all the work that's been done, at the end of all this we'll have nothing to show for it but talk. I've heard people refer to experiences in the past, bold initiatives undertaken and then abandoned, work started and then left off. I've heard a lot of references to an initiative of 10 years ago involving prosperity that talked about innovation, productivity and competitiveness, and the worry that I've sensed since my arrival yesterday is that whatever we do, we have to avoid producing nothing more than talk.

“There has never been a better time to move beyond talk to action.”

But you know, when you look at the record, what we've done so far and what we're poised to achieve now could not have been done 10 years ago. Ten years ago the macro-economic situation in our country involved major deficits, mounting debt, prolonged recession, a gloomy forecast. It involved the challenge of adjusting to free trade on the continent. It involved Canada searching to find its place in the globalized economy.

And 10 years on, how things have changed. The macro circumstances have never been better, as the Prime Minister's speech last night demonstrated. We've had 10 years of experience with continental free trade and we have found it very much to our liking. And as for the globalized economy, you know Jane and I have travelled this country from one end to the other over the last nine months. Between us we've met with 10,000 Canadians on this subject. We've had meetings in the Convention Centre in St. John's, Newfoundland, on the waterfront in Windsor. We've had meetings in the Exploration Place in Prince George, British Columbia. We've listened to people from every walk of life and every sector of this economy.

And I can give you my personal testimony to the fact that there is in this country a growing sense of confidence, a new Canadian confidence, a sense of sureness of our identity and certainty of purpose. We now know our place in the world. We know our place in North America. We have a sense of our possibilities, a sense of our emerging strengths. And so things are different than 10 years ago. We're ready to take that growing sense of confidence and put it to a great national purpose. And there's an awareness around the country that innovation, increasing productivity, improving our standard of living to protect our quality of life, is worth the national effort. There has never been a better time to move beyond talk to action. Canadians are ready for it and, as the leaders of every sector of the Canadian economy, you are just the people to work with us in partnership to make sure that it happens.

So if the opposite of talk is action, let me deal this morning with the action we must take to make this happen. And I'll deal with the action in three categories. First, action that the Government of Canada must undertake. Second, action that you must undertake. And third, action we can take together.

As for the Government of Canada, I've stressed everywhere I've spoken that the *Innovation Strategy* is not a government program. It's not something we're going to do for Canadians. It's something Canadians will do for themselves. But, that being said, we all understand that the Government of Canada has a role to play, a role of leadership in putting this subject high on the national agenda, in calling the meetings, in bringing people to them, and a role, as well, of getting our own house in order, creating the environment to allow innovation to succeed — setting the conditions and then getting out of the way to let the markets perform as they must.

As to specific steps that the Government of Canada must take, we heard your message on taxes. We heard you say that the capital tax is an impediment to growth. We heard you speak of the Capital Gains Tax. We heard you urge simplification and broadening of the R&D tax credits. We heard you encourage flow through shares in biosciences. We heard you argue for the use of the tax system to encourage innovation in examples such as tax credits for the adoption of new technology and clean energy, and for worker training to provide the incentives for actions that must be taken.

As to actions already taken or in hand on the regulatory environment, I accept your advice and believe we should advance the timing of the regulatory review to complete the major pieces by 2005, not 2010. The Speech from the Throne sent a signal of our awareness of the urgency of this task by talking about Smart Regulation and the creation of the External Advisory Council to help us in that regard. On drug approvals, as the Prime Minister said last night, you can expect early action — within weeks, not months. And Anne McLellan will be at the session this afternoon to speak further to that.

On attracting foreign investment, one of our goals in the *Innovation Strategy* is to double by 2010 Canada's share of North America-bound foreign direct investment. That means looking strategically at sectors of the economy where investment will be an advantage to Canada. Today, I'm releasing a consultation paper on the question of foreign ownership restrictions in telecommunications infrastructure and I'll ask the Industry Committee of the House of Commons to lead that consultation. I'm looking for recommendations to be returned to the government by the end of February.

In terms of risk capital, a crucial challenge which we heard again and again is access to risk capital being essential to move ideas from where they're born to where they are sold. We're doing our part through the Business Development Bank of Canada. In May, we announced a \$50-million start toward a fund of funds to be held by the Business Development Bank of Canada. We're working toward growing that fund of funds with contributions from other partners. In June, we announced a \$200-million fund available to the biotech sector to encourage innovation, and we will continue those efforts.

“... the Innovation Strategy is not a government program. It's not something we're going to do for Canadians. It's something Canadians will do for themselves.”

On strategic research priorities, yesterday I met, as the Prime Minister mentioned last night, with his Advisory Council on Science and Technology (ACST) and I've asked them essentially to do two things with us. First of all, to help us work toward the creation of a strategic framework for Canada's research enterprises so we can agree on the broad goals of our investments in research so that when we get additional requests for funding as a government, we'll have some framework within which to decide which investments would be most effective in advancing our strategic goals. The Advisory Council has agreed to work with us in that task.

The second thing I asked them to do was to work with us to simplify and consolidate the research landscape. Is it too complicated? Are there too many sources of funding? Can they be consolidated? And can we make life easier for the researchers? You know applying for research assistance now is quite a burden when you consider the variety of sources, the different forms, deadlines and criteria. Our researchers are spending too much time filling out forms rather than developing new ideas and the ACST has agreed to work with us in that task.

On infrastructure, you heard the Prime Minister last night. The 10-year infrastructure plan will enable us, working with you, to make the investments necessary to ensure not only quality of life but a productive economy in urban and rural parts of this country. And whether it's the urban strategy, the creation of the Institute for Learning, the efforts we'll make on literacy, the fast-tracking of immigration that was spoken of last night or the additional investment in Aboriginal Business Canada, the Government of Canada is taking concrete action to follow through on the bold agenda that we share.

“Our researchers are spending too much time filling out forms rather than developing new ideas . . .”

Let me move now to actions that we're asking you to take. The universities and colleges of this country are at the epicentre of the *Innovation Strategy*. It is on those campuses that we will develop the ideas and the processes that will enable us to lead the world. And that's why over these last five years the Government of Canada has committed \$10 billion toward the research enterprises of this country. We must ask our universities and colleges to do even more. And that is why we negotiated and signed with them a framework agreement of principles by which they have agreed by 2010 to double their research and to triple their commercialization output. In return, the Government of Canada will continue its commitment to appropriate levels of funding, and I personally will be the advocate for the universities and colleges and for their interests, particularly in urging a follow-through in the budget next year of the contribution towards indirect costs.

A second area where we're asking you to take action involves the availability of risk capital. Time and again Jane and I have been told of ideas that were stillborn because there simply wasn't the funding to bring them to market. To advance them through trials and demonstrations, to bring them through development, to manufacture and to market it was necessary to go south or to go over-

seas. That simply must change. And we call upon all of those who can help to do their part. All of you who manage funds, those with the pensions, with the banks, with the other institutional players, we call upon you to put a value on taking risk here in Canada, to look not just at the short-term prospects but the long-term advantage for us all to have a marketplace in which Canadian ideas can be nurtured and encouraged and enabled and brought to markets around the world.

We ask each of you as well to look at the scope for research and development in your own enterprises, to think about competing not just with each other here in Ontario or here in Canada but competing with others around the world and what investment is it that you can make that can improve your process, that can sharpen your advantage, that can create a better product that will enable you to become a Canadian-based player in a global game. What investments can you make to upgrade the skills of your workers? How can you help prepare them for the challenges of tomorrow? And although it comes today from the bottom line, surely it will add tomorrow to your ultimate return, to the value of your enterprise and to the advantage of our economy. And to those of my colleagues from provincial governments, you must work with us on clearing away barriers to internal trade.

You know free trade has been an enormous success for Canada. It's about time we had internal free trade in this country. It goes directly to the productivity of the country and I saw my partner and my friend Norm Betts, the minister from New Brunswick who this year is the co-chair with me at the Ministers' Council on Internal Trade. Norm, let's make certain that at the next meeting in a few months of our colleagues on internal trade, we tackle an ambitious agenda and clear away impediments for everyone else in this room who want to do business across this country without artificial barriers standing in the way.

You know innovation is everybody's business. It's not confined to the emerging sectors. It's for traditional sectors as well. And whether you're manufacturing steel or suits or cars or whether you're developing the newest in bioscience, investing to find the better way to seek the competitive advantage is what innovation is all about.

Finally, let me turn to actions that we can take together. Well, together we can monitor our progress from day to day after we leave this meeting. We can issue annual reports and we will, measuring the performance in every sector against the broad targets that we've set for ourselves. We should talk about meeting again, reconvening this group in two years to assess what we've done, take stock, be critical of areas where we've not done enough and be encouraging where we've made demonstrable progress. Together we can be bold.

“ . . . investing to find the better way to seek the competitive advantage is what innovation is all about.”

“Let’s think about the potential for Canada’s future. Let’s take that attitude of boldness in everything that we do.”

Last night we spoke about a change of culture, about not settling for second best, about Canada finally emerging to be the best at what it does around the world. That involves a new attitude, a sense of urgency as well because every one of our competitors has an innovation strategy of their own. Some say that the goals we’ve chosen for 2010 are difficult, that they’re hard to achieve. I say good. So they should be. Our purpose is to challenge Canadians because Canadians respond best when they are challenged. We want to create a vision of what Canada can be and then motivate and mobilize a national will in order that it happen. So let’s set difficult goals as long as we know what it will take to achieve them and as long as we have the common commitment to do what’s required.

And as far as motivation is concerned, I think we should be clear with Canadians: all of this effort, all of these goals, all of this work is not simply for the purpose of racking up impressive numbers on a chart for the financial analysts. It’s really about developing the economic strength we need to achieve our goals as a nation.

You know at dinner last night we were talking about the various challenges we face, whether it’s strengthening our military in a troubled world, addressing the issues of climate change, responding to the Romanow Report on health care reform, and how one person asked, “How will we pay for it all?” Well, my answer is that we’ll do what we have to and we’ll pay for it by having an economy that’s firing on all cylinders. We’ll pay for it by having economic growth based on bringing more new ideas to more markets here and around the world. We’ll pay for it by attracting more investment from outside our borders to help us build the Canada we need for tomorrow. We’ll pay for it by having additional employment, by having a work force equipped with the skills they need to fulfill those work responsibilities of the 21st century. This is really about the convergence of social and economic policy. If we want excellent health care, if we want outstanding education for our children and grandchildren, if we want safe and clean communities throughout this country, we have to have the economy that performs well enough to enable us to achieve those important goals.

And, lastly, as to what we can do together, let’s be bold. Let’s think about the potential for Canada’s future. Let’s take that attitude of boldness in everything that we do. You know today in the workshops we’ll be talking about health and biotech, we’ll be talking about environment and clean energy. As Henry Friesen has pointed out, we too often look at health care in this country as a burden to be borne rather than an opportunity to be seized. Canadians spend \$100 billion a year on health care. It’ll amount to a trillion dollars by the end of the decade. But that’s an opportunity to be seized. Why don’t we set as a goal for ourselves by 2010 to derive a 10-percent dividend from our health spending as a country — that 10 percent of our health care spending each year should come back to us in the form of economic activity to the advantage of all Canadians.

Some years ago the Government of Canada invested to build a Level 4 laboratory in Winnipeg, Manitoba, a world-class facility. There are only a handful in all the world. The architects and engineers who worked on that project have developed an expertise that has enabled them now to do contract work on a billion dollars of present or intended construction on just such containment laboratories in countries around the world. That's developing Canadian health expertise and exporting it to our advantage, and you and I can think of dozens of examples, areas where we can develop proprietary methods or products or processes that we can sell outside our borders: whether it's managing health information through electronic patient records that are now being developed; or aggregating and using public health information for research purposes or telemedicine as we deliver services to the far-flung regions of this great country; or robotics, where Canada is developing breathtaking technology that will overcome the challenge of distance in surgery.

On the environment, we tend to look at climate change as another burden instead of an opportunity. And let's be clear, the world is going to have to do something about climate change. The world is going to have to do something. So why not look at Canada as taking the lead, as having a competitive advantage? Why not develop Canada as the home of the newest technologies, building on strengths, looking to emerging trends in energy and production processes? Some people are talking about the hydrogen economy of the 21st century. Why don't we build on what we've achieved in fuel cells and invent the hydrogen economy right here? What about manufacturing based on non-polluting bio-processes, renewable energy — solar, wind, biofuels, hydro — developed right here in Canada? Why not take it as our goal to build an emissions-free car by 2015? Our auto sector has always been a leader in research. Imagine the possibilities for parts manufacturing, for production in a revolutionary advance that Canada can take credit for. If we succeed, the world will recognize the strengths and the true value of our economy.

Increased productivity and increased investment are bound to be reflected here and throughout the world. We should take it as our goal by 2010 to have our Canadian dollar worth at least 80 cents in relation to the U.S. currency so we can have a true reflection of the value of Canada's economy throughout the world. If we increase our productivity, if we attract additional investment, we can achieve that goal.

All of these goals are difficult and so they should be. They're also within our grasp. It's the challenge of our generation to build on what's gone before, to work together in common cause to make sure we take our nation to the next level. That's not talk. It'll require action and together let's make it happen. Thank you all very much.

“It’s the challenge of our generation to build on what’s gone before, to work together in common cause to make sure we take our nation to the next level.”



ADDRESSES

C. Opening address by the Honourable Jane Stewart, Minister of Human Resources Development

Good morning everybody. Thank you, Anne [Golden, CEO and President of The Conference Board of Canada] and thank you, Allan [Rock, Minister of Industry]. I am very happy to be your partner.

Allan, your speech today shows the energy, the commitment and the understanding that you have for innovation in Canada and it's wonderful to be here with you.

Ladies and gentlemen, we're talking about partnership. As the Government of Canada, we are committed to innovation and learning. We are fortunate to have Elinor [Caplan, Minister of National Revenue] and Denis [Coderre, Minister of Citizenship and Immigration] here with us this morning, I think Anne will be joining us this afternoon, and to have members from almost every single department in the Government of Canada in the audience and here today listening to what you're saying and contributing their views indicates to you that this is a Government of Canada priority — that we understand that innovation and learning and getting it right is essential for our competitiveness, our social cohesion and our success in the future.

We're anxious to get you engaged, but there are a few things I'd just like to share with you in the context of learning and from the point of view of Canadians. *Canadians Speak on Innovation and Learning* — it's a great document and I hope, taking the advice of our co-chairs, you've had a chance to look through it last night. This is the culmination of a year or 14 months of work, and it is an alignment of intent.

It's a great piece from which we can build in the context of innovation. Last night the President of St. Lawrence College said, "Well, you know, Jane, innovation is about people. It's people who create the ideas; it's people who have to implement the ideas." Volker [Thomsen], you are right, and that is a message that we heard over and over again. Innovation is about people.

In that context, there are many recommendations that have come forward but there are some that I should pay particular attention to. First and foremost: We have got to find the tools that will ensure that Canadians can earn while they learn. People want to be able to work, to provide for themselves but continue to upgrade and to work at being the best that they can be. I am very glad that my department is continuing to work to find those tools, but one of the things that becomes apparent to us is that we can do a better job at providing part-time loans and grants. There is an

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— Minister Jane Stewart

opportunity for part-time loans in the existing Canada Student Loans Program, but I took a look at it, and it doesn't work. It is designed to fail. It is from a generation where we didn't believe in part-time study, part-time studies, part-time learning, and we can improve it. We can make it more accessible, more useable and more vital in the context of the lives of Canadians who want to work and continue their studies.

Many of the sector councils are here and, I'll tell you, as organizations they're extraordinarily dynamic. Using them to help find the tools to assist particularly small and medium-sized businesses to provide continuous learning for their employee base is an opportunity that is presenting itself to us. Last night I spoke briefly with John Bulloch, a name that is synonymous with small business, and John's got some ideas as to how we can use e-learning and on-line learning more effectively for small employers. That's an area we have to turn our attention to, without doubt.

But there's more that needs to be done. There are more tools that we have to identify and determine who takes the responsibility. The Government of Canada has a role to play. I don't want to take away from private sector investment. It needs to be there for continuous upgrading of our labour force, but we want to add value because we know that people count. And making sure that individual Canadians have got access to the learning, the skills development and the training so they can continue to be the best is essential if we are going to be an innovative country.

Now, one message that comes out loud and clear is about the importance of the Government of Canada working productively and effectively with the provinces and territories. Jake Ootes [Minister of Education, Culture and Employment, Government of Northwest Territories] and Diane McGifford [Minister of Advanced Education and Training, Government of Manitoba] are here — colleagues of mine that are focussed on labour market development and post-secondary education. And we are committed to working strongly together to reduce the barriers that exist to access and affordability to post-secondary education. We've got to look at our granting structures, our loan programs, and integrate them to the best of our ability and respond to some of the recommendations that we've received from students who are using our programs, and listen to some very good advice about making those improvements.

But there's a message here too, as Allan pointed out, for colleges and universities. The country wants our colleges and universities to work effectively together to maximize their capacity, to make sure that there is effective and useful credential sharing so that there's no wrong entry point into the formal education system for Canadians.

“We are committed to working strongly together to reduce the barriers that exist to access and affordability to post-secondary education.”

It's a challenge, but at a recent round table in Edmonton — I lose track of the days, we've been at this so ferociously — there was an energy in describing the architecture of learning for adults, and how to make additional appropriate investments. That's one of the pieces of the puzzle that I hope gets discussed here today.

Last night, in the remarks I made on behalf of the Prime Minister, I was so very pleased to see his commitment to the Canadian Learning Institute. We spend billions of dollars a year in education, skills development, training, but we don't have a third party who's giving us information as to what works, how Canadians learn, how we get positive outcomes. And we need that advice.

The OECD talks about the fact that we don't provide sufficient data to the private sector in Canada that proves to them that investing in their work force is important to their competitiveness and their increased productivity. That body, this third-party institute, can help us not only with the collection of that data but with the management, the interpretation of it and the provision of it in an appropriate fashion to all the partners to make sure that innovation and learning is inculcated, and our culture is changed.

The other strong message that came out in the round tables and the work that I've been part of in the course of these last 12 months is the issue of inclusiveness. If we're going to be innovative, we have got to make sure that all hands are active. When we talk about inclusiveness, we might as well start by focussing on the 8 million Canadians who do not have the foundational literacy and numeracy skills to participate fully in Canadian society and in the new knowledge-based Canadian economy. In the past, those with low levels of literacy have been able to mainstream and to be part of our country. But it's going to become more and more difficult. They will be on the wrong side of the digital divide and we have to turn our attention to their needs and their requirements because we need them.

In that context, we had a round table here on best practices in literacy in Toronto. The messages that came forward were positive, saying the National Literacy Secretariat is an important piece of the puzzle. It needs a broader mandate but it is an essential part of our ongoing success. The message also came clearly to us that there needs to be a stronger relationship again between the work of the Government of Canada and the provinces and territories.

Diane McGifford and I talked about that last night and the importance of putting together a focussed agenda so that, as a country, we can say we are attacking the challenge in the context of literacy and numeracy.

“We spend billions of dollars a year in education, skills development, training, but we don't have a third party who's giving us information as to what works, how Canadians learn, how we get positive outcomes. And we need that advice.”

You know, Anne [Golden], your annual report on potential and performance measures competitiveness in countries around the world. Every year, Sweden comes up first in innovation and first on investments and literacy. I don't think that that is a surprise. There's a direct relationship between the two, and we as a country have got to put our energies in that same direction.

Continuing to talk about inclusion, Denis Coderre is here. Denis, you and I have been working at understanding our needs for a modern and effective immigration system. Canadians are saying we want to attract the best and the brightest. And Denis has got some wonderful ideas that he's working on with his provincial counterparts to energize our system of immigration. But when we say we want to attract the best and brightest, we've got to make sure that they want to come — and why would they come if their skills and abilities are not recognized and utilized here in Canada?

Sixty percent of the new immigrants to Canada have got post-secondary education, 44 percent of those want to work in the regulated professions.

We have to turn our attention to foreign credential recognition, and I believe that we can. This was a message that came out loudly and clearly across the country and at every round table that we held. There are some success stories. Marie Lemay from the Canadian Council of Professional Engineers is here, and she along with her profession have recognized that foreign credential recognition is a priority for engineers. Seventeen percent of that 44 percent I was referring to are engineers. The engineering profession knows they can do a better job and they are pulling their regulatory associations together across the province to deal with this.

Now, last night there was a reference in the Prime Minister's words to the importance of Aboriginal people, the only growing population in Canada. We have made some significant changes in our approach to working with Aboriginal people in terms of skills development and training. We've taken money from my department and put it in the hands of Aboriginal people themselves through our Aboriginal Human Resource Development Agreements. But there's more that we need to do. We need to make sure that those agreement holders know who you are. We need to facilitate the connection between those holders and the private sector, those of you who are interested in increasing the numbers of Aboriginal people in your employ.

But, in the Prime Minister's words, he also recognized that we have an opportunity to make sure that the new projects coming on-stream — Jake [Ootes], in your territory in the area of pipelines on the east coast, as we think of Voisey's Bay; Diane [McGifford] in Manitoba and the hydro-electric projects — that they include Aboriginal people. Roy Whitney is in the audience and Roy is the Chair of Aboriginal Business Canada (ABC) program that is sponsored through Industry Canada.

“We have to turn our attention to foreign credential recognition, and I believe that we can.”

“We need to get a dynamic presence for Aboriginal people so they can find their way into some of these projects or the associated businesses that support them. Not only having an equity position but also working for the long term.”

He said to me, “Jane, we’ve got to make sure that the additional funds that ABC are getting are dovetailing with this strategy of increasing money for training and development in basic levels of adult education for Aboriginal people. We need to get a dynamic presence for Aboriginal people so they can find their way into some of these projects or the associated businesses that support them. Not only having an equity position but also working for the long term.”

We know the importance of supporting Canadians with disabilities. Gary Birch [Executive Director of the Neil Squire Foundation] is sitting down over here, and if you don’t know Gary, you should get to know him because he and his organization are developing some of the most important disability supports and technologies that allow Canadians with disabilities to participate fully in society and in the Canadian economy. That can really make a difference. Allan [Rock], you’ve got a program to support the development of these supporting devices. That’s a piece of the puzzle that we have got to provide to ensure that Canadians with disabilities are much more part of our country.

Working with the provinces and territories again, we have committed to developing a labour market strategy focussed on the needs, the issues, the capacities of Canadians with disabilities. We also have to turn our attention to the income side. There are different streams of income revenue that people with disabilities can access, but it’s not cohesive or comprehensive, and that’s part of the puzzle that we have to and will turn our attention to in making sure that all who want to participate and be part of an innovative Canada can do so.

Our young people, our future, getting things right so they are aware of the opportunities that are there for them, that they’ve got the tools that they require, that we’ve got the programs that deal particularly with youth at risk that are multi-barriered to continuing their learning or to getting that first job — that has to be a priority for us. We, in 1993, responded, to the inordinately high levels of youth unemployment with a program called the Youth Employment Strategy. But times are changing, things are better for our young people. My job is to make sure that my programs continue to be flexible, responsive, that I reallocate funds against the priorities of Canada’s youth, and I commit to do that because it’s the right thing to do.

In that context, and in this context of inclusion, it’s not only about our people, our citizens, but it’s also about the kind of work that exists and that we need to support in Canada. We have got to include the blue collar trades as a career of first choice for Canada’s youth. We have got to understand and celebrate the fact that blue collar jobs are actually gold collar jobs with great opportunity, great incomes, and we need them to build the country that we want.

I can tell you that our partnership, our relationship with unions, with the private sector, has driven us to understand that we have to focus more on the skilled trades. I'm glad to tell you today that we have found \$12 million to partner with the Canadian Apprenticeship Forum and with Skills Canada to do a better job at delivering that message to Canadian parents, to young people, to employers who may be willing and need to create apprenticeships in all of the skilled trades, because we know the demographics are changing. It's definitely an ageing population. Baby boomers are moving to retirement, and we need a steady flow of employees, tradesmen and -women, who are coming to all the trades for the sake of our infrastructure and our future.

Finally, the common message that was provided by you and so many others was that this is not, as Allan points out, the responsibility of the Government of Canada. We are but one partner. It is about strengthening the partnerships, building the network, encouraging the interfaces, having those who have never talked to others make sure they connect and partner, whether it be with Aboriginal people, or between community colleges and their local economic drivers in support of clusters or applying research and technology, partnerships between the private sector and government to find those keys to unlock the workplace as a logical venue for lifelong learning. It is about partnership, about all of us.

Allan's suggestion that we come together in two years' time is a very good one, because we have to capture the energy. We have to move the alignment of intent to one of action, and that is the opportunity before us today. I'm encouraged that the energy that was in the room last night continues to be with us.

I hope that you feel the commitment from the Government of Canada to the Innovation and Learning Agenda, and see some of the areas that we think are logical first steps and next steps. But our challenge is to build this action plan to identify the priorities for today, to focus on those for the mid-term, and absolutely to commit ourselves to working together over the long term, because our future depends on it.

Knowledge matters; it matters to each and every single one of us. It matters to our country, our competitiveness, and, ladies and gentlemen, as you know full well, to our future. So let's get at it and I look forward to working with you through the course of the day on this important agenda.

“We have to move the alignment of intent to one of action, and that is the opportunity before us today.”



ADDRESSES

D. Closing address by the Honourable Allan Rock, Minister of Industry

Thank you, Anne. Ladies and gentlemen, we have spent a truly extraordinary day together. A few months ago, when Jane and I had the idea to hold a national summit in Toronto in November, we never imagined the degree of participation and the high quality of exchange that we have experienced today. So I would first like to thank you for taking a day and a half out of your extremely busy lives to share your time, energy, ideas and vision with us.

I also want to thank my Cabinet colleagues who took time from their extraordinary schedules to be here. To Denis Coderre, Elinor Caplan, Anne McLellan, who was here this afternoon, Maurizio Bevilacqua, who spent most of the day with us — we're very grateful. To members of Parliament as well, who've been here throughout, we thank you for your involvement and to colleagues from other governments.

Let me make just a few points in concluding. The first is that you'll be able to take away with you, as you leave, a document we've prepared and which is available just outside the doors, which summarizes the key points that were made today. In relation to each of the elements of the *Innovation Strategy*, there is an outline of the challenge and the priorities for action, which articulate the specific measures that you recommended we take (*see Appendix 4*). This document can serve as a concrete mission statement for our nation for the balance of the decade. It's a document against which we can be measured.

We have the intention — the Government of Canada has the intention of contracting with an independent third party, so that we can have annual reports measuring the progress of Canada's economy against every one of the actions we've decided upon today, and those reports will be published every year from now to 2010. So, you'll be able to see for yourself in concrete terms whether or not we are meeting the expectations we have set for ourselves. A copy of this work plan will be immediately furnished to all members of Parliament, all members of Cabinet, and the Prime Minister. I'll also make sure they'll reach the hands of all of our provincial counterparts.

Jane and I will report to the Prime Minister and Cabinet next Tuesday morning when Cabinet meets, on the day's deliberations and the outcomes.

There are two standing committees of Cabinet: Social and Economic. Jane chairs one and I chair the other. We will see to it that all members of Cabinet who participate in those committees will be made aware of your recommendations and how they impact their particular portfolio, including the Minister of Finance and Deputy Prime Minister John Manley. And as chairs of the committees, we will provide for early access to the committees for any policy measures that are required to follow through on the action items that involve the Government of Canada.

Jane and I also intend to discuss between us the need to appoint or create working groups to continue the efforts begun today. For example, if we need a working group to develop concrete measures in terms of access to risk capital or to change regulations in a certain area, we will discuss the options together and contact the participants in today's conference, who will be invited to assist us in this regard.

And we will plan again to meet, as we have last night and today, two years from now, so that we can take stock of where we've been, and measure progress, and talk about next steps.

Let me add just two other things. First of all, last night, having been here, it was going to be my privilege to speak after the Prime Minister to thank him for having attended. I didn't have that opportunity. But I don't want this event to end without putting on the record my gratitude and my strong feeling that we ought to express our gratitude for the leadership that Jean Chrétien has shown in these last nine years and bringing us to the point where we have a platform on which to build the kind of Canada we're talking about. As a result of his leadership, things have turned around in an extraordinary way over these last nine years and I think that should be acknowledged.

It's also true that since 1997–98, when the books were balanced, the Government of Canada has invested \$10 billion in the research enterprise of Canada through the foundations and the granting councils, and that came about over these last five years because of Jean Chrétien's determination that Canada have a world-class research capacity. So, we're really building what I believe will be an extraordinary legacy that he leaves.

And let me conclude by saying that I think that what comes out of today is a palpable sense of momentum. But we are indeed moving from talk to action, from discussion to performance. But we share a clear vision of what this country can be. We know what's required in order to create it and we share a determination to make sure that it comes about.

We're talking about more than tinkering at the edges. We're speaking about things other than specific programs. We're talking about a change in mentality and attitude. We're talking about realizing this country's potential, this nation's dream. We're engaged in more than just mechanics. I think what we've done over these last couple of days, and what lies ahead of us, is the opportunity to engage in nation building, in strengthening the ties that pull us together despite all of the other forces that divide us, that remind us of what we share as Canadians — nation building, to make this a stronger Canada, economically and socially. And I can't tell you how much Jane and I appreciate the contribution you have made, not just at this session but over the past many years in the various ways in which you've contributed to making this a better country.

So, on my own behalf, on behalf of Industry Canada, Peter Harder, the Deputy who worked so hard to make this a success, to the whole Industry Canada team who over the last many months have done an outstanding job on the *Innovation Strategy*, on their behalf and on my own, I thank you all and I look forward to working with you in the exciting days ahead as we make these recommendations a reality.

Thank you all!

ADDRESSES

E. Closing address by the Honourable Jane Stewart, Minister of Human Resources Development

Ladies and gentlemen, it's a wonderful part of the day. I found over the course of participating in the round tables and best practices tables over the course of this year that at the end there is so much information in your head, it's better not to say too much until you get it all in the places where it needs to be and create the new linkages that provide some new [inaudible] and some new strategies.

So, let it suffice to say first and foremost “thank you” to all of you for the energy you've put into this, and for the commitment you've shown, not only today but for the year past and, I anticipate, for the years ahead.

I think in the reporting out, the moderators did a superb job. And I guess what struck me was quite honestly the synchronicity of the report-outs with the messages that were provided last night and earlier today. Certainly in the context of the work that we're doing — Shirley, you pointed out it didn't take you guys too long to come up with your three priorities because you've been at it for so darn long. And I think there is more to be done, but obviously it works when we work together.

Wendy, when you were talking about the learning communities and creating a learning culture, challenging dynamic discussions in the group, about access, capacity, focus on literacy and basic skills. Greg, the question of communities — and wasn't it interesting to see it flow through the whole day, with Ray starting; Jim, you doing a summary after the moderate [inaudible] this afternoon. Greg, you're talking about the secret advantage that we have and that is the strength of communities here in Canada and the message, I think, to government and particularly my department: don't think you have to have it all done in Ottawa — build a strengthened partnerships at the local level. It's good for finding the appropriate results, for focussing on individuals, the power of individuals and community, and giving us a sense of place and security in this vastly growing and rapidly changing world.

There were — and I think this is the advantage of the time we have out of session, in the hallways — some additional messages that I received and I'd like to make just a quick comment about. First and foremost, there was a sense that we should not forget that the work that we have undertaken today and in the past is not only about economic competitiveness, but it is about social cohesion and making sure that the values and, really, morals of our country continue to be reflected.



We heard that in the importance of inclusion, the importance of recognizing when we're talking about the disabled, that we can't only talk about those that can find employment easily, but every single Canadian with disabilities who has the willingness and wants to make a contribution.

And that message, I can tell you, is one that strikes right at the heart of the Prime Minister's words last night. For him, it really is understanding innovation and learning in the context of continuing to build a Canada based on the values that we so appreciate. And that message, I don't want lost in the tone or the content, because more and more in a knowledge-based economy, in a knowledge-based world, good social policy depends on good economic policy. Good economic policy depends on good social policy.

Another message that came out in the — don't forget the importance of the voluntary sector. We've had the National Voluntary Initiative together, our government — the voluntary organizations coming together to strengthen the sector. They need to be innovative themselves, and in so being, will be able to continue to provide leadership and solutions on the question of innovation and learning.

A third message: Rob South talked about the role of youth and how they want to have direct input as we're looking at the financing mechanisms for post-secondary education. And just to be able to provide directly to provincial ministers, federal ministers, their views on what's working and what isn't, and we need to connect more directly with our young people.

Jennifer Corriero felt a bit frustrated that the voice of youth was not clearly heard, and that the things that we were doing could benefit by more involvement of young people, who are themselves innovative and looking at things through different lenses than people my age — yeah, my age.

Anyway, ladies and gentlemen, I think this has been an extraordinarily important undertaking not only for us as the Government of Canada, but I hope for all of you who are here as energized participants. And I guess I would just conclude by hoping that you appreciate the commitment that we have through the words that I provided you last night on behalf of our Prime Minister, through the commentary that you've heard from Allan, myself, from our colleagues who have participated and members of the bureaucracy of the federal government, but that you too will pick up Wendy Newman's challenge to take away your own learning, to accept responsibility, and continued engagement in this partnership over the long term, because it will make a difference to our competitive strength and, without question, to our social fabric.

Thank you very much for your energy and your time. It means so much to us all!

APPENDIX 3

SUMMARY OF PRIORITY RECOMMENDATIONS

IMPROVING RESEARCH, DEVELOPMENT AND COMMERCIALIZATION

1. Enable the relationship between the receptor community and universities, colleges, and researchers. Strengthen receptor capacity.
2. Continue to expand university-based research across Canadian universities — large and small — by strengthening university research infrastructure (for example, establish a permanent program for the reimbursement of indirect costs; expand research funding to the granting councils, to the Canada Foundation for Innovation and to the Canada Research Chairs; and ensure participation across universities of all sizes and disciplines).
3. Expand successful programs that support commercialization by broadening and deepening the mandates of programs (for example, the Industrial Research Assistance Program and Technology Partnerships Canada).

ENHANCING THE INNOVATION ENVIRONMENT

4. Reduce or eliminate capital taxes at the federal and provincial levels.
5. Improve the functioning of the Scientific Research and Experimental Development (SR&ED) Program.
6. Develop new tax-based instruments to stimulate seed and early-stage investments (for example, tax credits for angel investors).
7. Accelerate regulatory reform (to 2005).

STRENGTHENING OUR LEARNING CULTURE

8. Establish a pan-Canadian literacy and essential skills development system, supported by federal, provincial and territorial governments. Establish programs to improve literacy and basic skills based on individual and community needs and interests.

9. Integrate innovation-related skills in curriculums (including interdisciplinary, cross-curricular, risk-taking, problem-solving approaches to learning).
10. Adjust the system of student financial assistance to meet the changing needs of students, the post-secondary education sector and the knowledge-based economy (for example, assistance levels, debt and repayment issues, under-represented groups, e-learning).
11. Expand capacity in the post-secondary system by increasing infrastructure (physical, human, financial) using cost-effective design principles.

BUILDING AN INCLUSIVE AND SKILLED WORK FORCE

12. Increase participation levels of under-employed groups (including women, youth, people with disabilities, visible minorities and Aboriginal people).
 - Encourage the use of Prior Learning Assessment and Recognition (PLAR) through occupation-based collaborative projects to include non-formal and informal learning and skills.
 - Improve access to training, apprenticeship and post-secondary internship programs to target Aboriginal people, persons with disabilities, new Canadians and other under-employed groups.
13. Provide incentives and programs (for individuals and organizations) to increase in-house training and apprenticeship training carried out by industry.
 - Use sector councils to channel workplace training programs.
 - Create a new industry-led training corporation or a number of sectoral training bodies to champion and oversee training for trades and technical skills that are in high demand; make use of college and university programs as well.
 - Expand apprenticeship programs and create more relevant industry training programs through partnerships and collaboration between industry, government and academic institutions.
14. Undertake a comprehensive plan to improve the process for recognizing foreign credentials (for example, allow the process to begin overseas; coordinate credential evaluation processes; set up a single source of information on licensing requirements; establish norms for work experience; develop resources for employers; and use programs such as the Canadian Council for Human Resources in the Environment Industry).

STRENGTHENING COMMUNITIES

15. Collaborate with local (rural, urban and Aboriginal) social, economic and community development stakeholders across municipal, business, voluntary and NGO sectors to prepare long-term community innovation plans and strategies.
16. Support the growth of clusters by fostering the development of local “kernel” research institutions and schools, facilitating cross-community partnerships, providing information on best practices for building clusters and creating entrepreneurial networks; and capitalizing on the benefits and synergies of geography to encourage spinoffs, innovation, and the dissemination of ideas.
17. Extend broadband access across the country into rural and remote areas (according to community-specific access needs) to bring cultural, social (e-health), economic (e-business) and learning (e-learning) communities of interest together to encourage the dissemination, implementation and customization of community solutions (e-everything).
18. Enhance the learning capacity of children, youth, and adults from rural and Aboriginal communities by providing support programs and educational opportunities tailored to the needs of the local community: develop content to match technology; establish local centres of excellence; set up strong schools; establish community access centres; increase broadband to support distance education; engage young people in actual innovation; and increase access to capital (for example, tax-free bonds).

APPENDIX 4

PRIORITIES FOR INNOVATION AND LEARNING

National Summit on **INNOVATION** and **LEARNING**
Promises for Innovation

Canada's Innovation Agenda

- We have accomplished a great deal, with macro economic policies and strategic investments which are paying off for Canadians.
- However, more work remains if we are to reach our goal of making Canada an international leader on Innovation and Learning.
- *Achieving Excellence* and *Knowledge Matters* form the basis for Canada's Innovation Agenda.
- The National Summit and the process leading to today are designed to take us to the next level: making Canada a magnet for talent and investment.
- The key now is to move from discussion and consensus to action that will position us to achieve our national goal.

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SLIDE 1

National Summit on **INNOVATION** and **LEARNING**
Promises for Innovation

1. Improving Research, Development and Commercialization

The challenge:

- Closing gaps and capturing full economic/social benefits of research through improved commercialization and technology adoption.
- Strengthening links between labs and business, especially SMEs.

What we heard over the past 10 months:

- Strong support for *Achieving Excellence* targets — doubling R&D investments, increased support for granting councils and indirect costs.
- Priority on commercialization of world-first innovations, partnerships and facilitating of tech-transfer, especially for SMEs.
- Facilitate access to risk capital, with emphasis on SMEs.
- Critical importance of private sector developing its own action plans.
- Need to focus targets in terms of outcomes, not spending.

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SLIDE 3

National Summit on **INNOVATION** and **LEARNING**
Promises for Innovation

A Shared Vision

Our Goal: to make Canada one of the world's most innovative countries and a magnet for talent

- *Achieving Excellence* and *Knowledge Matters* proposed specific actions to help us reach this goal, and targets to measure our progress.
- From the engagement process, five horizontal themes have emerged:
 - Improving Research, Development and Commercialization
 - Building an Inclusive and Skilled Work Force
 - Enhancing the Innovation Environment
 - Strengthening Our Learning Culture
 - Strengthening Communities

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SLIDE 2

National Summit on **INNOVATION** and **LEARNING**
Promises for Innovation

1. Improving Research, Development and Commercialization

Priorities for action:

- Enable the relationship between the people who innovate and the universities/colleges/research institutions.
- Continue to expand university-based research across Canadian universities, large and small, by strengthening university research infrastructure.
- Expand successful programs that support commercialization by broadening and deepening the mandates of these programs.
- Facilitate access to risk capital.
- Support commercialization of new health and environmental technologies.

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SLIDE 4

National Summit on **INNOVATION** and **LEARNING**
 Priorities for Innovation

2. Building an Inclusive and Skilled Work Force

The challenge:

- The knowledge-based economy means an ever-increasing demand for skilled workers.
- Demographic trends will exacerbate existing skills and labour shortages.

What we heard over the past 10 months:

- Skills and learning challenges are real.
- Need to focus on the excluded and under-employed groups.
- Immigration is key to addressing skills and labour shortages.
- Workplace is critical for skills development.
- Partnerships are essential to moving forward.

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SLIDE 5

National Summit on **INNOVATION** and **LEARNING**
 Priorities for Innovation

3. Enhancing the Innovation Environment

The challenge:

- Building a strong and competitive innovation environment that encourages innovation and attracts talent and investment.

What we heard over the past 10 months:

- Regulations must be effective, efficient and responsive to conditions in the knowledge economy.
- Ensure that Canada's tax policies are competitive and make better use of tax credits.
- Need for a sector-by-sector regulatory review.
- Urgent need to advance target dates for completion of key regulatory reviews (e.g. drug approvals, foreign ownership, copyright policy).
- Need for greater harmonization across levels of government.

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SLIDE 7

National Summit on **INNOVATION** and **LEARNING**
 Priorities for Innovation

2. Building an Inclusive and Skilled Work Force

Priorities for action:

- Increase participation levels of under-employed groups (including women, youth, people with disabilities, visible minorities and Aboriginal people).
- Provide incentives and programs (for individuals and organizations) to increase in-house training and apprenticeship training carried out by industry — particularly, sector councils, sectoral training bodies and apprenticeship programs.
- Undertake a comprehensive plan to improve the process for recognizing foreign credentials.
- Create a welcoming environment for new immigrants into Canadian communities.

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SLIDE 6

National Summit on **INNOVATION** and **LEARNING**
 Priorities for Innovation

3. Enhancing the Innovation Environment

Priorities for action:

- Reduce or eliminate capital taxes at the federal and provincial levels.
- Improve the functioning of the scientific research and experimental development program.
- Develop new tax-based instruments to stimulate seed and early-stage investments (e.g. tax credits for angel investors).
- Accelerate regulatory reform to 2006.

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SLIDE 8

National Summit on **INNOVATION** and **LEARNING**
 Priorities for Innovation

4. Strengthening Our Learning Culture

The challenge:

- Innovation depends on a culture of lifelong learning to ensure workers can adapt to change.
- Timely and accurate information is essential to decision making and to reporting progress.

What we heard over the past 10 months:

- Need to address financial and other barriers to post-secondary education.
- Need to encourage innovation and flexibility in our formal learning system.
- Addressing shortages in skilled trades is critical.
- Need to address essential and literacy skills.

SLIDE 9

National Summit on **INNOVATION** and **LEARNING**
 Priorities for Innovation

5. Strengthening Communities

The challenge:

- All communities across Canada need to address the Innovation and Learning challenges.
- Smaller communities and rural Canada face particular challenges.

What we heard over the past 10 months:

- Strong support for a permanent infrastructure program and for greater access to broadband.
- Strong support for a cluster strategy.
- Need for private-public partnerships to ensure local learning is relevant and accessible.
- Entrepreneurship and skills development among Aboriginal people need to be increased.
- Need for innovation action plans at the community level.


SLIDE 11

National Summit on **INNOVATION** and **LEARNING**
 Priorities for Innovation

4. Strengthening Our Learning Culture

Priorities for action:

- Establish a pan-Canadian literacy and essential skills development system supported by federal/provincial/territorial governments. Establish programs to improve literacy levels and adults' knowledge of basic grammar and vocabulary.
- Expand capacity in the post-secondary system by increasing infrastructure, using cost-effective design principles.
- Adjust the system of student financial assistance to meet the changing needs of students, the post-secondary education sector and the knowledge-based economy.
- Integrate innovation-related skills in education curriculums.

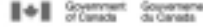

SLIDE 10

National Summit on **INNOVATION** and **LEARNING**
 Priorities for Innovation

5. Strengthening Communities

Priorities for action:

- Support the growth of clusters by fostering development of local "kernel" research institutions and schools, facilitating partnerships, providing information on best practices, and creating entrepreneurial networks.
- Collaborate with local stakeholders to prepare long-term community innovation plans and strategies.
- Enhance the learning capacity of children, youth and adults from rural and Aboriginal communities by providing support programs and educational opportunities tailored to the needs of the community.
- Extend broadband access across the country into rural and remote areas to bring cultural, social, economic and learning communities of interest to encourage community solutions.

SLIDE 12

National Summit on **INNOVATION** and **LEARNING**
 Pathway for Innovation

Targets and Early Actions

Improving Research, Development and Commercialization

Targets:

- Rank among the top five countries in terms of R&D and commercialization outputs by 2010.
- Triple private sector and double Government of Canada investments in R&D by 2010.
- Double research performed and triple commercialization outputs from university research by 2010.
- Raise risk capital investments per capita to prevailing U.S. levels by 2010.

Early actions by the Government of Canada to build momentum:

- Increase support to granting councils for research and graduate students.
- Work with universities toward a solution on indirect costs and to develop commercialization strategies.
- Work with the private sector in development and application of new technologies.
- AJCC/Federal government Framework of Agreed Principles to govern cooperation on innovation targets — double research, triple commercialization.
- Continued support for R&D funding and indirect costs.
- BDC \$50M "Fund of Funds" to boost access to venture capital.

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SLIDE 1 3

National Summit on **INNOVATION** and **LEARNING**
 Pathway for Innovation

Targets and Early Actions

Enhancing the Innovation Environment

Targets:

- Ensure Canada's business and personal taxation regimes are competitive and act as a magnet for talent and investment.
- Comprehensive review of regulatory environment by 2010.
- Substantially improve Canada's profile with international investors and secure greater access to foreign markets for Canadian innovations by 2010.

Early actions by the Government of Canada to build momentum:

- Establishment of External Committee on Smart Regulation to advise on priority regulatory reforms with a view to creating optimal conditions for innovation while protecting the public interest.
- Advance target date for key regulatory reviews from 2010 to 2005, with early action in the following areas:
 - Foreign ownership restrictions for telecommunications sector review by Standing Committee on Industry, Science and Technology.
 - Early Action to address drug approvals process.
 - Sec. 92 Copyright Review currently under way in Parliament — will make recommendations on updating our intellectual property regime.

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SLIDE 1 5

National Summit on **INNOVATION** and **LEARNING**
 Pathway for Innovation

Targets and Early Actions

Building a Skilled and Inclusive Work Force

Targets:

- Reduce the income gap between immigrants and their Canadian-born counterparts with comparable skills by 50%.
- Reduce the number of adult Canadians with low literacy skills by 25% over the next decade.
- Increase participation in the labour force of underrepresented groups.

Early actions by the Government of Canada to build momentum:

- Design fast-tracking procedures for highly skilled immigrants with job offers.
- Work with partners to break down impediments to the recognition of foreign credentials and support the integration of immigrants into the labour force.
- Work with provinces to remove barriers for persons with disabilities.
- Increase support to Aboriginal Business Canada, and invest in training programs to increase Aboriginal participation in major economic projects.
- Reallocate resources to help youth develop skills and pursue learning.
- New Prime Minister's Task Force on Women Entrepreneurs.

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SLIDE 1 4

National Summit on **INNOVATION** and **LEARNING**
 Pathway for Innovation

Targets and Early Actions

Strengthening Our Learning Culture

Targets:

- Build our knowledge base and report to Canadians on progress.
- Increase the number of learners by one million over the next five years.
- Double the number of apprentices completing a certification program by 2010.

Early actions by the Government of Canada to build momentum:

- Consult with provinces, territories and other stakeholders on the development of the Canadian Learning Institute to provide information to Canadians and inform decision making.
- Work with partners to promote the skilled trades as career of choice.
- Promote innovative learning and skills development in the workplace, including literacy and essential skills.
- Work with provinces to enhance student financial assistance to improve access to post-secondary education, including for part-time study.

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SLIDE 1 6



National Summit on **INNOVATION** and **LEARNING**
 Priorities for Innovation

Targets and Early Actions

Strengthening Communities

Targets:

- Work in partnership to foster internationally recognized technology clusters.
- Significantly improve innovation performance of communities through strengthened partnerships.
- Promote entrepreneurial skills and job creation among Aboriginal people.

Early actions by the Government of Canada to build momentum:
 SFT Commitment to establish a 10-year strategic infrastructure program, including urban strategy:

- Target regional development activities and address distinct challenges of urban, rural and northern communities.
- Work with Canada's largest cities to reduce barriers faced by new immigrants in settling into their new communities.
- Promote entrepreneurial skills and job creation among Aboriginal people by increasing support for Aboriginal Business Canada.
- Further develop Canada's national cluster strategy.
- Accelerate broadband access.

SLIDE 17



National Summit on **INNOVATION** and **LEARNING**
 Priorities for Innovation

Conclusion: Moving Forward

Moving from consensus to ACTION is essential to sustain momentum:

- **Early action by the Government of Canada**
 - Concrete next steps on innovation and learning, including expedited reviews of key regulatory regimes.
 - Seek expert advice on some key outstanding issues.
- **Sectors and communities**
 - Develop action plans to identify their commitments.
- **Federal/provincial/territorial governments**
 - Deepen and broaden collaboration on innovation and learning.
- **Measure progress**
 - Measure and report annually on Canada's progress toward our national goal and targets.
- **Reconvene group within two years to assess progress and refine next steps**

SLIDE 18

APPENDIX 5

PRESENTATIONS ON THE FIVE SUMMIT THEMES

Building an Inclusive and Skilled Work Force

Robert R. Blakely, Director of Canadian Affairs, Building and Construction Trades Department,
American Federation of Labour — Congress of Industrial Organizations

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The Trades – Value to Society??

- Not immune to Technology, in fact require bright and capable people
 - With the right soft skills
 - The Ontario Education Minister is wrong!
- The Demographic Time Bomb, **but** the complex nature of this issue...
- Make trades a priority for governments
- Safety is invisible because we have it

SLIDE 1

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Collaboration

- Industry driven
 - The *Beer Kept* secret
 - Waiting for Godot
- Harmonize the interests
 - National standards
 - Migration skills
 - Common core and sequencing
- Real partnerships
 - JATCs
 - CSC & CAF

SLIDE 2

Enhancing the Innovation Environment

Don Drummond, Senior Vice-President and Chief Economist, TD Bank

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INNOVATION and LEARNING

Inclusiveness and Accessibility

- Can *they* afford training?
- HR strategies around major projects
 - The soft skills to succeed
- We invented lifelong learning
- Immigration
 - Paper credentials vs. testing skill sets
 - Absorbing people for “there”
 - What is the “need”
- Competition for people

SLIDE 3

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INNOVATION and LEARNING


Innovation Environment

- Support innovation through tax system
- Accelerate regulatory reform
- Modernize intellectual property regime

SLIDE 1

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Thank You



SLIDE 4

National Summit on
INNOVATION and LEARNING

Support Innovation Through the Tax System

Consensus on Goal: Competitive tax regime

Two particular Disincentives: Capital taxes,
High marginal personal
income tax rates

Correct Distortions: Legislation and administration

Choice on Incentives: Targeted credits or
low rates on broad base

Shift the Tax Mix?

SLIDE 2

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Accelerate Regulatory Reform

Timing of Review:

- 2003–2007, not 2010

Scope of Review:

- Narrow interests can't dominate
- Private sector advisory group
- Process to eliminate internal barriers

SLIDE 3

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Other Considerations

- Inventions aren't the sole answer
 - commercialization
 - technology diffusion
- Government policy isn't the sole answer
 - innovative environment in private sector
 - quality of business leadership

SLIDE 5

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Modernize the Intellectual Property Regime

- Pursue international harmonization
- Modernize copyright rules for digitization
- Speed up the process: 100–350 patent officers

SLIDE 4

Strengthening Our Learning Culture

geneviève bich,

Vice-President of Bell Canada Enterprises

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Strengthening Our Learning Culture

- **"Strengthening"** suggests that Canada may be falling behind and that we may not be fully equipped to successfully meet the challenges of the knowledge economy
- **"Learning"**: The lifelong acquisition of knowledge, understanding or skill by study, instruction and experience
- **"Culture"**: The integrated pattern of human knowledge, belief and behaviour that depends upon man's capacity for learning and transmitting knowledge to succeeding generations
- Innovation is about investing in:
 - Knowledge (the "what")
 - Behaviours (the "how")
- Innovation resides in people
- Innovation requires a transformational state of mind

SLIDE 1

Strengthening Communities

Raymond Ivany,

President of Nova Scotia Community College

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INNOVATION and LEARNING

Strengthening Communities

- Support the development and growth of clusters
- Extend broadband access
- Build learning and innovative communities
- Strengthen rural/Aboriginal communities

SLIDE 1

APPENDIX 6

PRESENTATIONS FOR BREAKOUT SESSIONS: IDENTIFYING KEY CHALLENGES TO INNOVATION AND LEARNING

Mobilizing Communities

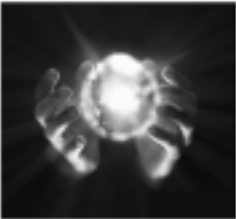
Ottawa — *An Innovative Community*

Jeffrey Dale, President, Ottawa Centre for Research and Innovation

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INNOVATION and LEARNING

What is innovation?

- Innovation occurs at the community level
 - So does implementation
- Implementation varies by community
 - Programs need to be responsive and adaptive to different needs and competitive pressures
- Clusters exist at the community level



SLIDE 1

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INNOVATION and LEARNING

Who is our competition?

- We compete globally for markets, talent and investment
- Innovation drives valuation
- Advanced research is our competitive advantage
- Collaboration in the community realizes innovation



SLIDE 2

National Summit on
INNOVATION and LEARNING

SLIDE 3

National Summit on
INNOVATION and LEARNING

Education

- **Community supported**
 - School Breakfast Program
 - \$350,000 raised
 - Volunteers in Education/OttawaReads
 - 1,550/225 Schools
 - Capital Educators' Awards/EdaGals
 - 399 nominations
 - Partners in Education events
 - ORELI
- **Fee for service**
 - Tech Coaches — 31/all school boards
 - GrassRoots — \$150,000 in 2001
 - Passport to Prosperity

SLIDE 5

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INNOVATION and LEARNING

OCRI

Ottawa Centre for Research and Innovation
Centre de recherche et d'innovation d'Ottawa

- 700 members
- 2002 budget — \$12 million
- Staff of 100
- **Key programs**
 - Education • SmartCapital
 - TalentWorks • Global Marketing
 - Entrepreneurship Centre
 - Events/Corporate Programs

SLIDE 4

National Summit on
INNOVATION and LEARNING

Sm@rtCapital

Broadband Community Development

- **ORCast** — rural access project, expanding broadband service to Ottawa's rural area.
- **EdaNet** — 4th-up and high-speed access network for post-secondary institutions. 3,000+ subscribers
- **ORAN** — connecting public sector institutions to an Ottawa fibre network. Funding will come from members, city and province.
- **SmartSites** — supporting community internet access sites, 126 sites in Ottawa, about 50 in key areas.

SLIDE 6


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INNOVATION and LEARNING



Building Ottawa's Talent Pool

Regional Centres of Excellence for Skilled Occupations

- Address employers' skill needs and shortages
- Hub of training centres providing talent for all sectors
- Collaborating partners: four local Ottawa school boards, two colleges, the City of Ottawa and the Learn to Earn program



SLIDE 7

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INNOVATION and LEARNING



Branding and positioning Ottawa to attract markets, talent and investment

- Lead Generation**
 - 9 incoming company closings to date
 - represents creation of 275 jobs
 - 20 in discussion
- Foreign Delegations**
 - 25 to date
- Increased Media Coverage**
 - Consistent messaging in Ottawa media
 - U.S. business-related media
 - 29 Boston, 1 Raleigh, 16 San Jose
- OGM Delegations**
 - 14 external missions (to date) to target cities in U.S.A. and U.K.
- Conferences**
 - Six international conferences held in Ottawa, and four held outside of Ottawa




SLIDE 9

National Summit on
INNOVATION and LEARNING

the entrepreneurship centre

Thinking, Starting, Growing

Clients	4,934
Contacts	22,660
Seminars and presentations/attendees	871,628
Consultations	946
Ottawa Capital Network Companies profiled/event participants	56,611



SLIDE 8

National Summit on
INNOVATION and LEARNING

the entrepreneurship centre

Economic Impact (1996–2001)

	1996	1997	1998	1999	2000	2001	Total
New Start-Ups	507	576	339	514	563	1,130	3,841
New Employment	879	676	768	837	1,298	1,529	6,088
Capital Invested by EC Clients (000s)	9,806	13,058	5,040	11,000	34,000	37,000	109,905
Sales Generated in 1 Year by EC Clients (000s)	14,443	25,117	18,085	33,000	50,000	74,000	215,958



SLIDE 10

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INNOVATION and LEARNING

Events/Corporate Programs

- > **OCRI Programs (65):** TEB, ZoneFive, 45th Circuit, e-Learning, Dollars & Sense, Spotlight, SPIN, Tech Rocks, OCRI Showcase and Awards Dinner/AGM, OCRI Golf Tournament
- > **Co-Sponsored (22):** Clusters: Photonics, Software and Wireless, CITO TechTalk, Innotaly, Gov TOn-Line-APCEA, Carleton University Research Days, Regulatory Approval Forum for Technology, Renegades, Senators, Most Sto. Marie: Doing Business in China, Gateway to Europe, Mexico/Tucson — OCRI Global Marketing
- > **Contracted (19):** Univ. du Quebec à Hull, KPMG Report Launch, Linkages in Manufacturing, Capelle Kane, Network of Centres of Excellence, Price Waterhouse Cooper, Borden Ladner Gervais, SCOMP, Industry Canada, City of Ottawa (TOP), DFAIT, VC Fair, OreLE (Ottawa School Boards), CITO AGM, EduGala, Build the Board Cda., NCIT, Festival of Seasons (OLSC,OTCA,COC,RGA)

the entrepreneurship centre
Dollars & Sense

SLIDE 11

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INNOVATION and LEARNING

Challenges for Sustaining Innovation in a Community

- Improve global competitiveness
- Create innovation pipeline
 - Commercialize from research base
 - Increase funding from tech transfer
- Create your own identity
 - One size does not fit all
 - Encourage regional specialization and cluster development (on a level playing field)



SLIDE 13

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INNOVATION and LEARNING

Ottawa – Let’s Do Business

Ottawa’s Advanced Technology Employment

Year	Employment
1995	35,000
1996	38,000
1997	42,000
1998	45,000
1999	50,000
2000	55,000
2001	60,000
2002	65,000

Growth in Advanced Technology Companies

Year	Companies
1995	400
1996	500
1997	600
1998	700
1999	800
2000	900
2001	1,000
2002	1,300

Venture Capital Investment in Ottawa

Year	Investment (Millions)
1995	100
1996	150
1997	200
1998	300
1999	400
2000	1,400
2001	1,100
2002	400

SLIDE 12

Immigration

Fulfilling the Promise: Integrating Immigrant Skills into the Canadian Economy

Naomi Alboim, Fellow and Adjunct Professor, School of Policy Studies, Queen's University

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INNOVATION and LEARNING

Vancouver Consultation: Immigrants and the Canadian Labour Market

▪ **Recommendations for action:**

1. Clear and accurate information to potential immigrants
2. Start the process overseas
3. Comprehensive plan
4. Accurate labour market information
5. One-window access to modular programs

SLIDE 1

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INNOVATION and LEARNING

The Proposed Approach

- Solutions will be part of an overall system.
- Incentives will encourage all players to participate and collaborate.
- Jurisdictional roles will be respected.
- The system will value and recognize qualifications, focussing on ways to quickly fill identified gaps.
- Solutions will be practical, building on existing practices, structures, and technology.
- Opportunities will be available to begin overseas.

SLIDE 3

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Vancouver Consultation: Immigrants and the Canadian Labour Market

6. Work with employers to develop initiatives
7. Resources for employers
8. Expand existing employment services
9. Local initiatives
10. Public education to increase awareness
11. Comprehensive plan for recognizing foreign credentials

SLIDE 2

National Summit on
INNOVATION and LEARNING

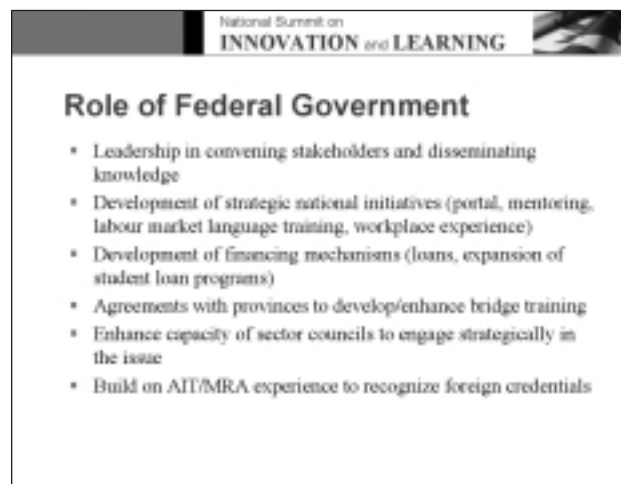
Stakeholders

- Skilled immigrants and their associations
- Governments: federal/provincial/territorial/municipal
- Regulators
- Employers, associations, unions, sectors
- Educational institutions
- Academic credential assessment services
- Professional associations
- Community-based service providers

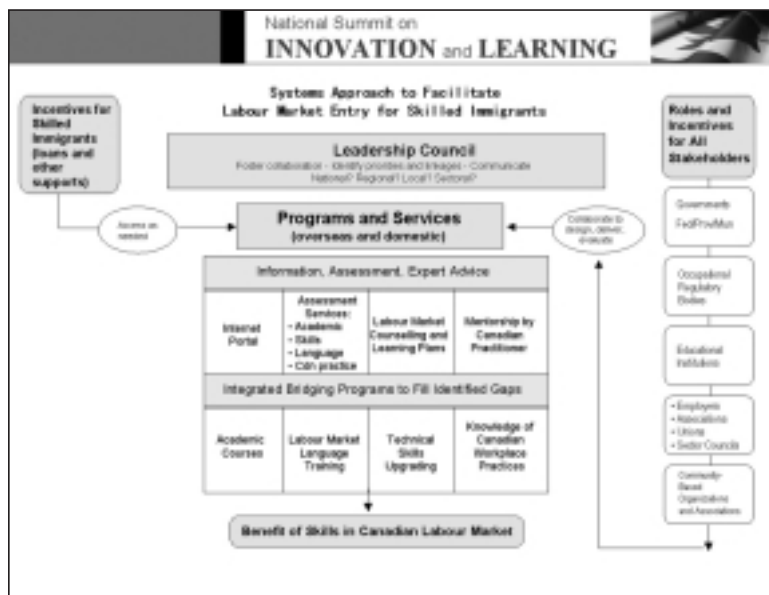
SLIDE 4



SLIDE 5



SLIDE 7



SLIDE 6

Immigration

Canadian Council for Human Resources in the Environment Industry

Grant Trump, President and Chief Executive Officer, Canadian Council for Human Resources in the Environment Industry

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INNOVATION and LEARNING

*The key to a successful
immigration project
will be employer-employee
partnerships*

SLIDE 1

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INNOVATION and LEARNING

CCHREI's Mission Statement

*To ensure an adequate supply of people
with demonstrated skills and knowledge
required to meet the environmental
human resources needs of the
public and private sectors.*

SLIDE 3

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INNOVATION and LEARNING

Overview

- What is CCHREI?
- Environmental Employment
- Sector Characteristics
- Key Issues for Immigration
- Pilot Project Described

SLIDE 2

National Summit on
INNOVATION and LEARNING

**Characteristics of Environmental
Employment**

- Multidisciplinary
- Cross-Sectoral
- National and International
- Knowledge-Based

SLIDE 4

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What is an Environmental Practitioner?

Any person who performs work activities that contribute to the protection of the environment, the conservation of its natural resources (including the prevention, abatement and control of pollution), and environmental communications, research and education.

SLIDE 5

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Key Issues for Immigration

- Recruitment Issues
- Retention Issues
- Learning Issues “Skills Gap”

SLIDE 7

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INNOVATION and LEARNING

Current Issues and Future Demand

- High Demand for Environmental Practitioners
 - 9,000 (+14% increase) environmental practitioners from 1998–2001
- High Demand for Mid-Career Environmental Practitioners
 - 5–10 years’ experience
- Competition with Other Related Industry Sectors

SLIDE 6

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Electronic Immigration Screening Tool

- Canada’s Innovation Strategy — Investing in People, Knowledge and Opportunity
- “To ensure Canada receives the skilled immigrants it needs and helps immigrants to achieve their full potential in the Canadian Labour Market and Society”

SLIDE 8

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Project Goals

- To fill persistent and/or temporary labour shortages in the environment sector
- Brand Canada as the destination of choice for skilled environmental workers
- With strong linkages to industry, assist new immigrants to find meaningful employment related to their area of expertise
- Assist new environmental practitioners in finding employment in all regions of Canada

SLIDE 9

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INNOVATION and LEARNING

Working Cooperatively

- Linking existing immigration initiatives
- Tie to Canadian Education Centre (CEC) worldwide sites.
- Tie to Canadian embassies and consulates
- Link to the “Provincial Nominees” provisions
- Link to “Temporary Foreign Worker” program

SLIDE 11

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INNOVATION and LEARNING

Project Audience

- Those potential immigrants that are currently work ready
- Those potential immigrants that require some skills upgrading to achieve full employment

SLIDE 10

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INNOVATION and LEARNING

CCHREI Capabilities

- Detailed Definition of Environmental Employment
- National Occupational Standard (NOS) for Environmental Employment
- Electronic Environmental Recruitment, Retention and Learning (ERRL) Project
- Professional Development Centre (PDC)
- EnviroCareers Package

SLIDE 12

Life Sciences, Biotechnology and Health Innovation

Henry Friesen, Chairman, Genome Canada

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CCHREI Capabilities (continued)

- EnviroEmployment Package (in development)
- Environmental Youth Corp. (EYC)
- Enviro Job Board
- Canadian Environmental Certification Approvals Board (CECAB)

SLIDE 13

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A Vision for Canada

The health and health care sectors should be viewed not as a cost to be borne, but as an opportunity to be explored.

We must embrace a national vision to create the most innovative, high quality health care system possible, committed to continuous improvement.

This vision of the health care and health systems as an engine of economic growth can be a key enabler for a sustainable Canadian health care system.

SLIDE 1

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The Proposed Process

- STEP 1** Initial Contact
- STEP 2** Documentation of Competencies
- STEP 3** Electronic Comparison to NOS and GAP Analysis
- STEP 4** Preparation of Individual Human Resource Plans
- STEP 5** Ongoing Monitoring
- STEP 6** Matching Service

SLIDE 14

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INNOVATION and LEARNING

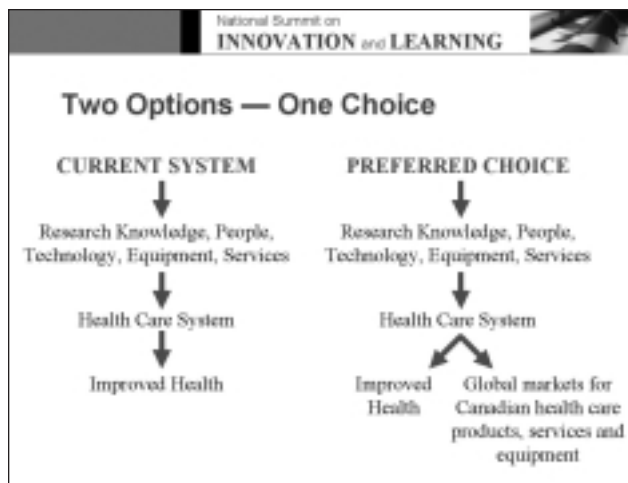
Proposition #1

Align the health innovation and economic policy agendas and decision making within governments and health authorities to help optimize health, patient care and economic development.

SLIDE 2

Life Sciences, Biotechnology and Health Innovation

J. Mark Lievonon, President, Aventis Pasteur Limited and Chair, BIOTECCanada



SLIDE 3

National Summit on INNOVATION and LEARNING

Aventis Pasteur in Canada

- Aventis Pasteur has been protecting Canadians and the world from infectious disease since 1914
- A unique Canadian asset: the country's leading full-scale vaccine research, development, manufacturing and commercialization operation
- Aventis Pasteur employs over 1,000 Canadians
- Aventis Pasteur invests 40 percent of total sales in Canadian R&D — more than \$90 million in 2002
- The vaccine business of Aventis, Aventis Pasteur manufactures 30 vaccines and immunotherapeutic products that protect against 17 infectious diseases

SLIDE 1



SLIDE 4

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Partnership and Collaboration: Key to Aventis Pasteur's Success

- Aventis Pasteur has partnered with government, universities and public health to produce more than 80 vaccines for Canada and the world
- Pentacel™ — which protects children against five diseases in one shot and contains the global "gold standard" pertussis vaccine — was researched, developed and is produced in Canada
- Canada is a strategic research site for the global company and home of the Cancer Vaccine Program, a 10-year, \$350-million effort in partnership with TPC
- The Aventis Biotech Challenge involves over 100 partners — including HRDC, CIHR and the NRC — promoting biotech education to high school students in 12 Canadian communities

SLIDE 2

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INNOVATION and LEARNING

Key Industry Challenges:

- Research obstacles are increasing as the biotechnology industry tackles more complex diseases – collaboration is critical to realizing innovation
- The upfront cost of research: long development timelines require patient investment
- Barriers to commercialization: high capital investment necessary for product development
- Attracting and retaining top scientists with globally competitive skills
- The need for multidisciplinary biotech workers
- Gaining access to the best international biotech workers through immigration

SLIDE 3

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Alignment of National Strategic Intent

	Immigration		Education
Industry/Economic Development		Government	Finance and Taxation
		Academia	
Health		Industry	Regulatory Framework
			Skills and Training

Innovation: the path to prosperity

SLIDE 5

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INNOVATION and LEARNING

Key Industry Challenges:

- Current health care purchasing policies do not support Canadian innovation
- Prolonged regulatory approval periods
- Strong, internationally competitive intellectual property protection is crucial
- Current price regulation does not factor in the high cost of biotech innovation
- In the biotech sector, clusters are developing naturally where skills, facilities and common interests exist
- Government should focus on providing the elements necessary for clusters to succeed, rather than attempting to create clusters

SLIDE 4

Life Sciences, Biotechnology and Health Innovation

Health and Health Research: Canada's Meeting Ground for Innovation

Dr. Alan Bernstein, OC, FRSC, President, Canadian Institutes of Health Research

**Health and Health Research:
Canada's Meeting Ground for
Innovation**

Dr. Alan Bernstein, OC, FRSC
President
Canadian Institutes of Health Research

SLIDE 1

Health Care in the 21st Century

Describe Disease	→	Causal Molecular Pathology
Disease Homogeneity	→	Disease Heterogeneity
Patient Homogeneity	→	Individualized Medicine
Empirical Interventions	→	Rational Interventions
Reactive Disease Management	→	Proactive Health Promotion

SLIDE 3

The Canadian Landscape

- Canada is a small country
- Necessary to focus energies
- Focus must:
 - Reflect Canadian values and priorities
 - Build on strengths
 - Create meeting ground for diverse sectors
 - Engage communities
 - Build careers
 - Position Canada as a world leader
- Health care system is a \$100-billion plus industry
- Largest knowledge-based industry

SLIDE 2

Government of Canada Initiatives

- Canadian Institutes of Health Research — \$562 M per year
- Canada Foundation for Innovation — \$3.15 B
- Canada Research Chairs — \$900 M
- Networks of Centres of Excellence — \$78 M per year
 - Canadian Network for Vaccines and Immunotherapeutics
 - Protein Engineering Network • Canadian Stem Cell Network
 - Canadian Genetic Diseases Network
 - Canadian Arthritis Network • Canadian Stroke Network
 - Canadian Bacterial Disease Network
- Genome Canada — \$620 M
- Indirect Costs of Research — \$200 M

SLIDE 4



SLIDE 5



SLIDE 7



SLIDE 6



SLIDE 8



SLIDE 9

CIHR Strategic Training Initiative in Health Research

- \$100 M over six years
- 51 innovative transdisciplinary training programs across Canada
- Providing Canada's very best young people with multi-disciplinary skills
- Careers in industry, health care, government and academia
- A partnership with the:
 - Michael Smith Foundation for Health Research
 - Alberta Heritage Foundation for Medical Research
 - Fonds de la recherche en santé du Québec
 - Heart and Stroke Foundation
 - Ontario Challenge Fund

SLIDE 11



SLIDE 10

Community Alliance for Health Research Coastal Marine Workplace Health and Safety Memorial University of Newfoundland

Beothic Fish Processors C.E.C. Marine Consultants Ltd. Canada-Newfoundland Offshore Petroleum Board Canadian Association of Petroleum Producers Canadian Labour and Business Centre Community Resource Services Ltd. Cougar Helicopters Inc. Dalhousie University Department of Environment and Labour Department of Fisheries and Aquaculture Department of Fisheries and Oceans Department of Mines and Energy Dept. of Health and Community Services, Gov't of Newfoundland and Labrador FFAWCWW — Fish Food and Allied Workers Fish Harvesters' Resource Centre Hibernia Management and Development Company Ltd. Husky Oil Operations Ltd. Institute for Work and Health	ST. JOHN'S NF ST. JOHN'S NF ST. JOHN'S NF ST. JOHN'S NF OTTAWA ON ST. JOHN'S NF ST. JOHN'S NF HALIFAX NS ST. JOHN'S NF ST. JOHN'S NF ST. JOHN'S NF ST. JOHN'S NF ST. JOHN'S NF ST. JOHN'S NF ST. JOHN'S NF ST. JOHN'S NF ST. JOHN'S NF ST. JOHN'S NF TORONTO ON
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SLIDE 12

Community Alliance for Health Research Coastal Marine Workplace Health & Safety Memorial University of Newfoundland

Integrated Occupational Health Services	ST. JOHN'S NF
Labrador Fishermen's Union Shrimp Company	MARY'S HARBOUR NF
Mustang Survival Corp.	RICHMOND QC
National Research Council	ST. JOHN'S NF
Newfoundland and Labrador Employers Council	MOUNT PEARL NF
Newfoundland and Labrador Federation of Labour	ST. JOHN'S NF
NewLantic Group	ST. JOHN'S NF
Nova Scotia Department of Labour	HALFAX NS
Professional Fish Harvesters Certification Board of Newfoundland and Labrador	ST. JOHN'S NF
Régie régionale de la santé et des services sociaux du Québec	GASPE HARBOUR QC
Seafarers' International Union	VANCOUVER BC
Tongat Fish Producers Co-Operative Society Ltd.	HAPPY VALLEY NF
United Steel Workers of America in Canada	ETOBICOKE ON
United Steel Workers of America in Canada	SEPT-ÎLES QC
Women in Resource Development Committee	ST. JOHN'S NF
Workers' Compensation Board of Nova Scotia	HALFAX NS
Workplace Health, Safety & Compensation Commission	ST. JOHN'S NF

SLIDE 13

Building Canada's Health System for the 21st Century

- Enhance synergy and partnerships between governments, health system, private sector
- Stimulate new approaches to education and training
- Pursue coherent, multi-sectoral approach to commercialization
- Increase alignment of vision, objectives, accountability between governments, industry and agencies
- Develop Centres for Health Innovation to break down geographic and sectoral silos and be beacons of innovation within the health system

SLIDE 15

Spinoff companies from CIHR funding University of British Columbia



SLIDE 14

Putting Health Research Into Action

- Branding Canada as a world leader in health innovation
- Building improved health care with increased efficiencies
- Net exporter for new health products and services
- New and improved health treatments and technology
- Improved population health and labour productivity
- Improved health promotion and disease prevention
- Evidence-based treatments
- Reducing health disparities among vulnerable populations
- Knowledge-based careers
- National competitive advantage
- Better health and quality of life for Canadians

SLIDE 16

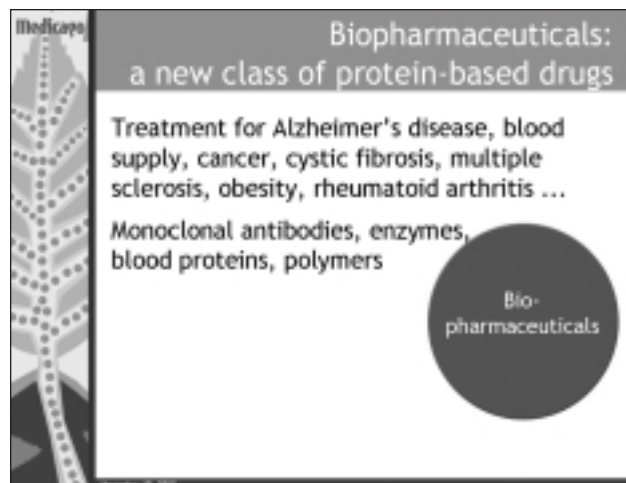
Life Sciences, Biotechnology and Health Innovation

Medicago

François Arcand, President, Medicago Inc.



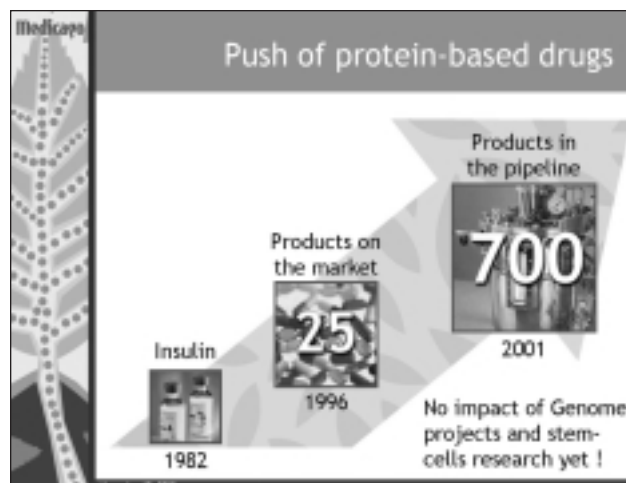
SLIDE 1




SLIDE 3



SLIDE 2



SLIDE 4



Efficient/expensive products


Treatment for Alzheimer's disease, blood supply, cancer, cystic fibrosis, multiple sclerosis, obesity, rheumatoid arthritis ...

Monoclonal antibodies, enzymes, blood proteins, polymers

30–35% of pharma market in 2010

Bio-pharmaceuticals

SLIDE 5



Efficient/expensive products

Treatment for Alzheimer's disease, blood supply, cancer, cystic fibrosis, multiple sclerosis, obesity, rheumatoid arthritis ...

Our health care system cannot afford that!


Monoclonal antibodies, enzymes, blood proteins, polymers

30–35% of pharma market in 2010

Cost per patient, up to CDN\$30,000/year

Bio-pharmaceuticals

SLIDE 7



Efficient/expensive products

Treatment for Alzheimer's disease, blood supply, cancer, cystic fibrosis, multiple sclerosis, obesity, rheumatoid arthritis ...


Monoclonal antibodies, enzymes, blood proteins, polymers

30–35% of pharma market in 2010

Cost per patient, up to CDN\$30,000/year

Bio-pharmaceuticals

SLIDE 6



Efficient/expensive products

Treatment for Alzheimer's disease, blood supply, cancer, cystic fibrosis, multiple sclerosis, obesity, rheumatoid arthritis ...

We see health care as an expense

Monoclonal antibodies, enzymes, blood proteins, polymers

30–35% of pharma market in 2010

Cost per patient, up to CDN\$30,000/year

Bio-pharmaceuticals

SLIDE 8

A page from Dr. Friesen's book

Align the health innovation and economic policy agendas and decision-making within governments and health authorities to help optimize health, patient care and economic development.

```

    graph TD
      A[PREFERRED CHOICE] --> B[Research Knowledge, People, Technology, Equipment, Services]
      B --> C[Health Care System]
      C --> D(Improved health)
      C --> E(Global markets for Canadian health care products, services and equipment)
  
```

SLIDE 9

Goal: Improved Health/Global Markets

Drug discovery

We have great Canadian sources of biopharmaceuticals:

- universities
- CIHR, NRC, etc.
- biotech companies
- Genome projects

SLIDE 11

A page from Dr. Friesen's book

Align the health innovation and economic policy agendas and decision-making within governments and health authorities to help optimize health, patient care and economic development.

```

    graph TD
      A[PREFERRED CHOICE] --> B[Research Knowledge, People, Technology, Equipment, Services]
      B --> C[Health Care System]
      C --> D(Improved health)
      C --> E(Global markets for Canadian health care products, services and equipment)
      F((Can Canada develop its own bio-pharmaceuticals?)) -.-> D
  
```

SLIDE 10

Goal: Improved Health/Global Markets

Drug discovery

↓

Drug development

We have world-class clinicians and CROs
+ We need financing, focus, coordination

SLIDE 12

Financing: Biopharmaceutical Drug Development Accelerator

BDDA - \$1B fund (flow-through shares and VCs)
 Selects good bio-compounds
 Develops them via best-in-class CRDs
 Brings them through clinical trials to increase value
 Sells them back to initial owner or partners them out

November 19, 2002

SLIDE 13

Goal: Improved Health/Global Markets

We have Cargene, DSM (small quantities)
 • We need to develop Novel Protein Production Systems (larger quantities)

November 19, 2002

SLIDE 15

Significant Capacity Crunch

CNO capacity planned vs. forecast

November 18, 2002

SLIDE 14

Developing Novel Production Capacity

Emerging plant and animal-based systems:
 Medicago - alfalfa leaf - Québec City
 Nexia - goat milk - Montréal
 SemBioSys - safflower seeds - Calgary
 TGH - pig semen - Québec City


Many proteins, few competitors

Manufacturing is = 13% of the price of biopharmaceuticals

Bio-made in Canada

November 18, 2002

SLIDE 16




Developing Novel Production Capacity

Making "Bio-Made in Canada" a national priority:

- coordinate government grants and contracts (biodefense, edible vaccines, autoimmune diseases, cancer, energy)
- adapt TPC to knowledge-based projects and to smaller companies
- better access to capital
- entice Canadian big pharma/biotech to enter into manufacturing deals
- include manufacturing into BDOA

Bio-made in Canada

SLIDE 17




Biopharmaceuticals, a health economy powerhouse


Canada stands little chance to create a strong pharma sector. It is too late.

It is still time for Canada to build a great biopharma sector:

1. biopharmaceuticals development (BDOA)
2. protein production (Bio-Made in Canada)
3. regulatory (task force for a Smart Regulatory system)



SLIDE 19



Goal: Improved Health/Global Markets

Drug discovery

↓

Drug development

↓

Drug manufacturing

↓

Commercialization

→

Patients

We need a stringent, faster and smarter regulatory system (task force)

SLIDE 18

6 325 407 246 humans
(Canadian population)

More than **700** biopharmaceuticals in the pipeline
(Canadian pipeline)

Over **550** public domain and/orphan drug discoveries
(Canadian pipeline)

About **15** plant production systems for proteins
(Canadian pipeline)

1 capacity grant for biopharmaceuticals
(Canadian pipeline)

Conference on Plant-Made Pharmaceuticals

Golden City Sq. Canada, October 28-29, 2012

What's big pharma and biotech doing about the new products of plant-based drugs. All the time.

Conference's Objectives: to identify & introduce to the market the best product in each pipeline in plant production in Canada, United States, Europe, Australia, Asia, South America, Africa, and Oceania.

Our focus will be on: to find countries or large scale producers or distributors; regulatory or manufacturing; business models; intellectual property; financing; and regulatory systems in various jurisdictions and finally, technology. It encompasses all these activities in connection with the product in the pipeline in Canada, United States, Europe, Australia, Asia, South America, Africa, and Oceania.

Business Finance Government Technology

Register at www.plantmadeconferencetoronto.com

Supported by the manufacturers of plant-made pharmaceuticals and by supporters of this field in Canada, US, Europe, Australia, Asia, South America, Africa, and Oceania.



SLIDE 20

Environment and Clean Energy


BioBased Economy: Capturing Canada's Natural Advantage

Richard Smith, President and CEO, Dow AgroSciences Canada

BIOBASED ECONOMY National Summit on **INNOVATION and LEARNING**

The BioBased Economy

- Based on efficient bio-processes and sustainable, renewable bio-resources
- Enabled by major advances in information technology, biological sciences, chemistry, physics and engineering
- Potential to stabilize economics of key resource sectors (i.e. agriculture, forestry)
- Will enhance human and environmental health
- Role in improving national and economic security



SLIDE 1

BIOBASED ECONOMY National Summit on **INNOVATION and LEARNING**

The Vision

- Just as we rely on photosynthesis for our food, we can also harness this energy and the molecular building blocks of plants and animals for our industrial sector
- BBE:
 - renewable bio-resources
 - highly efficient bio-processes
 - broad product range
 - eco-industrial clusters




SLIDE 3

BIOBASED ECONOMY National Summit on **INNOVATION and LEARNING**

The Current Situation

- Imbalance between global industrial production, consumption and our natural environment
- Non-toxic emissions, like CO₂, have the potential to become a threat to global ecosystem
- Finite and depleting fossil fuels resources



SLIDE 2

BIOBASED ECONOMY National Summit on **INNOVATION and LEARNING**

BioBased Economy

Positive Impacts for Rural Communities		Product, Service and Benefit Outcomes
Sources of Materials	Processes	
Plants Animals Microbes	Extraction Refinement/ Manufacturing	Food/Feed Functional Foods / Nutraceuticals Personal Care Products High-Value Industrial Feedstocks Fine Chemicals and Pharmaceutical Molecules Bioenergy Greenhouse Gas Management Environmental Remediation
Biotechnology	Engineering	

Canadian R&D Capacities

Government Departments and Agencies

Universities

Private Sector

SLIDE 4

BIOBASED ECONOMY National Summit on **INNOVATION and LEARNING**

The Benefits of the BioBased Economy

- **Economic Development**
 - New market opportunities and job creation
 - Potential production cost savings
 - Stabilize and diversify economics of key sectors
- **The Environment**
 - Reduce GHGs / increase C sequestration
 - Minimize our environmental footprint
- **Social Considerations**
 - Rural economic development
 - Environmental awareness...there are options





SLIDE 5

BIOBASED ECONOMY National Summit on **INNOVATION and LEARNING**

The Canadian BioProducts Industry

- **~100 companies** ... all regions of the country undertaking R&D and/or manufacturing of bioproducts
 - **small, specialized with promising technology** ... TGN, SenBioSys, MCN BioProducts and Dynamotive
 - **SMEs with commercial offers** ... Jegen, Nexia, Emvyn, Biox, Commercial Alcohols, Bioreginal and Naturools
 - **Large companies** ... Terriboc, Drentar, Carbor, Dow BioProducts, Dupont, CASCO and JBL
- **The BBE is a work in progress** ... how quickly it grows and how competitive it becomes depends on us.

SLIDE 7

BIOBASED ECONOMY National Summit on **INNOVATION and LEARNING**

Canada's Natural Advantages

- **World-class sciences**
 - based in agriculture, forestry and aquaculture
- **Natural resource-based economy**
 - Innovative, competitive and respected forestry and agricultural sectors
- **Clear capacity to lead**
 - Intellectual capacity combined with physical resources ... large and productive agricultural land base and forest reserves

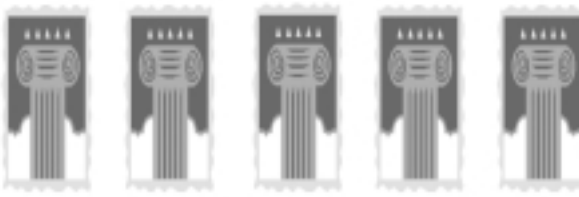



SLIDE 6

BIOBASED ECONOMY National Summit on **INNOVATION and LEARNING**

Five Pillars to Advance BioBased Economy

Market opportunities	Targeted innovation & commercialization	Government policies, programs & regulations	Human resources & infrastructure	Public outreach
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SLIDE 8

Environment and Clean Energy

Clean Energy

Richard Adamson, PEng, MSc, Vice-President,
Business Development, Mariah Energy Corp

BIOBASED ECONOMY National Summit on
INNOVATION and LEARNING

Getting Going



- Support **BioProducts Canada** in its efforts to facilitate the collaboration between governments, companies, academia, capital sources and sector development agencies to create clusters based on eco-industrial principles
- Develop “**public outreach**” strategy and action plan to accelerate Canada’s transition to an economy which is more biobased
- **Government procurement** of biobased products ... support market development and commercialization of these technologies

SLIDE 9

CLEAN ENERGY National Summit on
INNOVATION and LEARNING

Emissions

- (Almost) always associated with energy
- Not just GHG
 - includes NOx, SOx, Hg, particulates, VOCs ...
- Emissions reduction and efficiency
 - key change drivers for energy industry

SLIDE 1

CLEAN ENERGY National Summit on
INNOVATION and LEARNING

Innovation

- Technology and innovation are **NOT** sectors. They are tools to address challenges.
- The energy sector is a technology sector.
 - There is no “New Economy” without technology users.

SLIDE 2

CLEAN ENERGY National Summit on
INNOVATION and LEARNING

Innovation Challenge

- Cultural Barriers
 - Confrontational/competitive, defensive/risk averse, or?
 - Elimination of silos (“Possibility Thinking”)
 - Celebrate leadership
- Environmental Barriers
 - Regulatory
 - Taxation
 - Access to capital

SLIDE 3

CLEAN ENERGY National Summit on
INNOVATION and LEARNING

Innovation Backlog

- Ethanol from cellulose
- Pyrolysis (Bio) oil
- Microturbine CHP
- Fuel cells
- Power electronics (inverters, power factor correction, etc.)
- *Nurture them here then supply the world*

SLIDE 5

CLEAN ENERGY National Summit on
INNOVATION and LEARNING

Key Points

- Valley of Death (prototype to commercial)
 - Governments, financial and industrial sectors have a role
- Government leadership — coherent goal
 - Climate Change? H₂ Economy
 - No new programs — DON'T centralize funding
 - Existing programs need funding, tuning

SLIDE 4

Environment and Clean Energy

Sustainable Development Opportunities — Targeted Technologies

Dr. Vicky Sharpe, President and CEO, Sustainable Development Technology Canada (SDTC)



SLIDE 1



SLIDE 3



SLIDE 2



SLIDE 4

SD OPPORTUNITIES National Summit on INNOVATION and LEARNING

SD OPPORTUNITIES — DEVELOPMENT STAGE

Stage of Development	Number	Percentage of Total
Laboratory Prototype	3	18%
Certification	2	7%
Commercial Prototype	8	33%
Demonstration	14	52%

Time to Market, Years	Number	Percentage of Total
1	1	30%
2	11	41%
3	7	30%
4	3	4%
5	2	4%
>5	8	0%

SLIDE 5

SD OPPORTUNITIES National Summit on INNOVATION and LEARNING

BARRIERS — Innovation Chain

Stages of Technology Development

Risk Profile

SLIDE 7

SD OPPORTUNITIES National Summit on INNOVATION and LEARNING

SD OPPORTUNITIES — National Capacity

- Applications to Date**
 - + 501 applications
 - + \$876 million in funding requests
 - + \$2.8 billion in total project leveraged funding
 - + 90% industry-led
- Projects Approved**
 - + 8 projects
 - + \$6.61 million
 - + \$42.4 million in total project leveraged funding
- GHG Reductions**
 - + 501 = 165 million tonnes
 - + 8 = 11.2 million tonnes

SLIDE 6

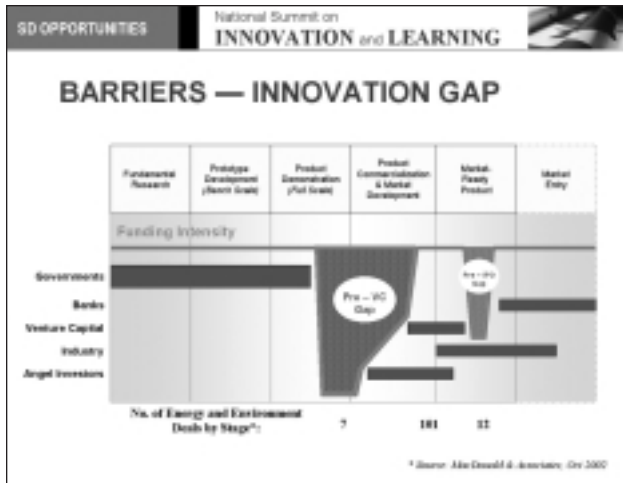
SD OPPORTUNITIES National Summit on INNOVATION and LEARNING

BARRIERS — FUNDING INTENSITY

Public Funding \$21 Billion

Private Funding \$3.5 Billion

SLIDE 8



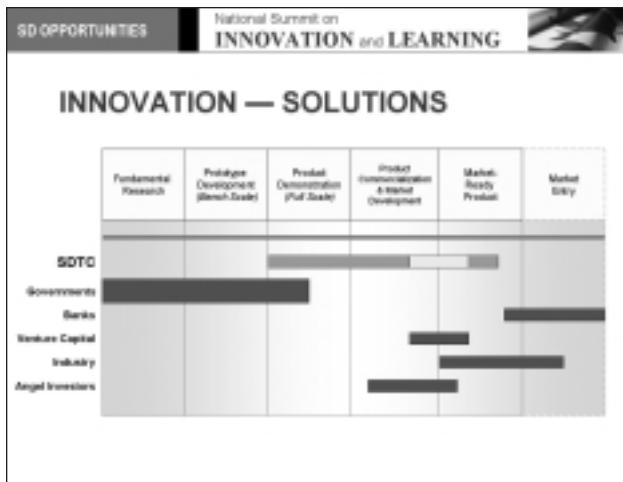
SLIDE 9

SD OPPORTUNITIES National Summit on INNOVATION and LEARNING

INNOVATION — SOLUTIONS

1. Closing the gap
 - Communications/incentives/skills
2. Stronger links
 - Entrepreneurs, SMEs
 - Innovation arms of universities and colleges
 - Angel investors — NAO
 - Investment community

SLIDE 11



SLIDE 10

SD OPPORTUNITIES National Summit on INNOVATION and LEARNING

INNOVATION — SOLUTIONS

1. Increase investment in pre-VC gap
 - Reduce development risk
 - Qualified deal flow
 - Support more demonstrations/commercialization
 - Reduce financial risk
 - Tax incentives for investors
 - Reduce market risk
 - Public policy, national incentives
2. Capacity building
 - Entrepreneurial excellence

SLIDE 12

APPENDIX 7

BIOGRAPHIES OF CO-CHAIRS, PANELLISTS AND MODERATORS

CO-CHAIRS

Dr. Anne Golden

Dr. Anne Golden is President and Chief Executive Officer of the Conference Board of Canada. Dr. Golden has received national recognition for her role in the public policy arena, especially for her work on cities and homelessness. In 2002, the *Financial Post* named Dr. Golden among Canada's top 20 elite businesswomen in their annual ranking of Canada's brightest and best women executives.

In 2001, Dr. Golden received a special national Excellence Award, created by the United Way of Canada, in recognition of her leadership, skills, ideas, capacity for innovation and ability to implement.

Dr. Golden is the author of numerous publications on public policy issues. She holds a doctorate in history, and honorary doctorates from the University of Toronto, York University and Ryerson Polytechnic University.



Dr. Claude Lajeunesse

Claude Lajeunesse, PhD, PEng, is President of Ryerson University in Toronto and a past president and chief executive officer of the Association of Universities and Colleges of Canada. He sits on the Board of Directors of Capital Technologies CDPQ Inc. (the largest venture capital fund in Canada, with more than \$2 billion invested), the Ontario Heritage Foundation and the Toronto East General Hospital. He is Director of the Canadian Educational Standards Institute and President of the Canadian Academy of Engineering.

Dr. Lajeunesse is a former director of Targeted Research for the Natural Sciences and Engineering Research Council of Canada, and former general manager of the Canadian Council of Professional Engineers.



PANELLISTS AND MODERATORS

Richard Adamson

Based in Calgary, Alberta, Dr. Richard Adamson, MSc, PEng, is a founder, Vice-President, Engineering, and Vice-President, Business Development, of Mariah Energy Corporation. Mariah is a distributed micro-utility and developer of the Heat PlusPower family of microturbine-based integrated energy appliances. Dr. Adamson serves on the Alberta Distributed Generation Interconnection Working Group and on the Natural Resources Canada Advisory Board on Energy Science and Technology. Throughout his career, he has focussed on the commercialization of innovative technologies through technology transfer, product planning, development and marketing. Dr. Adamson holds bachelor's and master's degrees in Electrical Engineering from the University of Calgary.

Naomi Alboim

Naomi Alboim is currently a Fellow and Adjunct Professor at the School of Policy Studies at Queen's University, and is an active public policy consultant. Prior to this, Ms. Alboim worked at senior levels in the governments of Canada and Ontario for 25 years, including eight years as a deputy minister in three different portfolios.

Her areas of responsibility have included human rights; equity; immigration; labour market training; workplace practices; culture; sports and recreation; disability issues and issues related to women, seniors and Aboriginal peoples; voluntarism; and community economic development. In all subject areas, she has worked extensively in policy development and program design and delivery.

François Arcand

Born in 1955 in Québec City, François Arcand earned an Executive MBA in 1995 from Concordia University in Montréal. In 1997 he co-founded Medicago Inc., with Scientific Director Dr. Louis Vézina, in Québec City. During the previous 20 years of his professional life, Mr. Arcand was a business consultant in the arts sector. His company, Cultur'inc Inc., helped cultural organizations and their founders implement affordable and pragmatic solutions to business and market development issues. Mr. Arcand is a committee member within BioQuébec, BioteCanada, Program Committee BIO 2002, and Plant-Made Pharmaceuticals (March 16–19 2003, in Québec City).

Dr. Alan Bernstein

Dr. Alan Bernstein received his PhD in medical biophysics at the University of Toronto in 1972. He has made key contributions to our understanding of embryonic development, hematopoiesis, cancer and the formation of the cardiovascular system. His work has also been important in advancing techniques for gene therapy and the genetic analysis of mammalian development. As a scientific leader, Dr. Bernstein was highly successful in building and nurturing the Lunenfeld Institute into one of Canada's premier health research institutes. Dr. Bernstein held the first Anne Tanenbaum Chair in Molecular and Developmental Biology at the Lunenfeld Institute from 1990 to 2000, and the Koffler Chair for the Director of the Lunenfeld Institute from 1994 to 2000. He has also received numerous awards and honours for his work.

geneviève bich

geneviève bich joined the executive ranks of Bell Canada Enterprises as Vice-President and General Counsel at age 33. In June 2000, she became Vice-President, Industrial Relations, a first at Bell Canada, where that position had historically been held by men. She is also one of the few women in Canada to hold an executive position in the field of industrial relations.

In 1987, Ms. bich obtained her Bachelor of Arts from McGill University, where she majored in psychology. She then obtained her Bachelor of Laws from the Université de Montréal in 1990, before being called to the Quebec bar in 1991. From 1991 to 1997, she was counsel in Bell Canada's law department, specializing in employment and labour law. From 1997 to 1998, she was Director, Industrial Relations, with Bell Canada and was responsible for the region of Ontario. From March 1998 to May 1999, she was Assistant General Counsel in Bell Canada's law department. In this capacity, she led the Employment and Labour Law team and advised senior management on strategic issues and policies. Later, in her role as Vice-President and General Counsel, she led a diversified team of lawyers active in all areas of the law, while maintaining her senior employment and labour law responsibilities.

As Vice-President, Industrial Relations, she is currently leading a team of industrial relations professionals involved in the day-to-day interpretation and application of collective agreements, collective bargaining, strategic business decision making, human rights, employment equity and diversity, privacy, health and safety for Bell Canada and a number of its federally and provincially regulated affiliated companies.

Robert R. Blakely

Robert R. Blakely was born and raised in Edmonton. He is the third generation in his family to have completed an Alberta apprenticeship in the plumbing and gas fitting trades, and has since acquired a steam fitter's ticket. He completed his post-secondary education at the University of Alberta and was admitted to the Alberta bar in 1978, practising labour relations law on the employee side since that time. Mr. Blakely currently holds the post of Director of Canadian Affairs of the Building and Construction Trades Department, AFL-CIO.

Mr. Blakely joined the Canadian Forces (Naval Reserve) in November 1969, and has risen through the ranks to become a Command Qualified Officer, commanding various HMC ships, including Her Majesty's Canadian Ship *Nonsuch*, and Edmonton's Naval Reserve Division, and was promoted to the rank of Captain in July 1997.

Jeffrey Dale

Jeffrey Dale has worked in the technology sector in Ottawa as both an executive and an entrepreneur. Most recently, Mr. Dale has been President of KOM Networks Inc. Prior to his work at KOM, he was Vice-President, Business Development, at Peleton Photonics Systems Inc. From 1984 to 1999, Mr. Dale served as Vice-President, Sales and Marketing, for EDS Systemhouse and WorldCom. He has many years of community involvement, including membership on the Board of Directors for the Ottawa International Airport Authority and the Board of Governors for the University of Ottawa. He is also Chair of the Royal Ottawa Health Care Group.

Don Drummond

Don Drummond has been Senior Vice-President and Chief Economist of the TD Bank since June 2000. He is responsible for the analysis and forecasting of economic performance in Canada and abroad, and the analysis of key policies that influence economic performance. Prior to this, Mr. Drummond held a series of progressively senior positions at the Department of Finance Canada. In his most recent position as Associate Deputy Minister at this department, he was responsible for economic analysis, fiscal policy, tax policy, social policy and federal-provincial relations. In particular, Mr. Drummond coordinated the planning of the annual federal budgets.

Gwen Friedrich

Gwen Friedrich is an exercise therapist whose commitment to persons with disabilities has extended over a 24-year career in the health and wellness field. She is currently serving as Executive Director of the Community Outreach Group, and as President of the Entrepreneurial Co-operative of Disabled Persons Ltd. She is also a board member of the Canadian Centre for Disability Studies, a consumer-directed, university-affiliated agency dedicated to research and education.

For two years, Ms. Friedrich was a sessional sensitivity trainer for the RCMP. She has also been a speaker at provincial and national conferences addressing workplace inclusion. She is currently enrolled at the University of Regina, where she is completing her Master of Science degree, with a thesis on quality of life for persons with disabilities.

Dr. Henry G. Friesen

Dr. Henry G. Friesen obtained his Doctor of Medicine degree from the University of Manitoba. His discovery of the human pituitary hormone prolactin, and its role in health and disease, defining it as a major cause of infertility, and his collaboration with others in the introduction of new therapies have resulted in the effective treatment of tens of thousands of women worldwide. In the past decade, Dr. Friesen has served Canada with great distinction as the seventh president of the Medical Research Council of Canada. Currently, Dr. Friesen is a Distinguished Professor Emeritus at the University of Manitoba and a Senior Fellow at the Centre for the Advancement of Medicine. He is currently Chairman of the Board, Genome Canada.

Raymond E. Ivany

Ray Ivany, a native of Sydney, Nova Scotia, joined the Nova Scotia Community College (NSCC) as President and Chief Executive Officer in October 1998.

Over the past 15 years, he has been active in shaping post-secondary education and economic development policy within the region as a member of the Nova Scotia Research, Development and Innovation Advisory Board, the Maritime Provinces Higher Education Commission, and the Nova Scotia Voluntary Planning Board. Prior to joining the NSCC, Mr. Ivany was Executive Vice-President of the University College of Cape Breton. He has also served as Special Advisor on Education, Training and Sustainable Development at the Atlantic Canada Opportunities Agency in Moncton, and as a member of the Federal Task Force on the Northern Cod Fishery in Ottawa.

Mr. Ivany is one of the few college presidents in Canada who is also a community college graduate — in two different program areas. His academic career also includes a graduate degree in science, obtained while studying in the United States as a Rotary Scholar, and an appointment as a Research Fellow in the Department of Environmental Science and Physiology at Harvard University.

In March 1999, the Prime Minister of Canada appointed Mr. Ivany to the National Round Table on the Environment and the Economy. He was also a member of the Fiscal Management Task Force that advised the Government of Nova Scotia on budget and government reform. Recently, he advised the Ontario Ministry of Training, Colleges and Universities as a member of the Investing in Students Task Force. Mr. Ivany also serves on the executive of the Canadian College Presidents' Network, and the boards of the Metropolitan Halifax Chamber of Commerce and the Greater Halifax Partnership. *Atlantic Business* magazine has twice named him one of Atlantic Canada's top 50 CEOs.

James W. Knight

James (Jim) Knight was raised in Galt and Preston, Ontario, which are both now incorporated within the City of Cambridge. He graduated from Preston High School and enrolled at the University of Western Ontario, where he graduated with a gold medal and an Honours Degree in History and Philosophy.

Having completed his master's degree in Canadian history and politics at the University of Toronto, he began his employment in Ottawa with the Department of Indian Affairs and Northern Development. In 1976, he took a leave of absence from the Government of Canada to become Director of Programs and then Associate Director of the Heritage Canada Foundation, a voluntary, national organization dedicated to the protection of heritage and historic buildings and environments.

In 1981, Mr. Knight rejoined the Government of Canada, when he was appointed Policy Advisor to Environment Canada. Upon completion of his assignment there, he was named Executive Director of the Federation of Canadian Municipalities (FCM), in April 1982. In 2000, he became FCM's Chief Executive Officer.

J. Mark Lievonen

J. Mark Lievonen is President of Aventis Pasteur Limited, and has been with the company for 18 years. Prior to his appointment as President, Mr. Lievonen was Senior Vice-President and General Manager of the Oncology Business Unit. Mr. Lievonen holds Bachelor and Master of Business Administration degrees from York University. He received his Chartered Accountant designation in 1981 while working with Coopers & Lybrand. Mr. Lievonen is the Chairman of the Board of Directors of BIOTECanada, was Chairman of the Steering Committee of the BIO2002 Conference held in Toronto in June 2002, and was a member of the Ontario government's BIOCouncil.

David Joseph McGuinty

David Joseph McGuinty earned a Master of Laws degree in environmental and natural resources law at the London School of Economics and Political Science, and holds bachelor's degrees in both laws and English literature from the University of Ottawa. He is also a graduate of the Kemptville College of Agriculture, and has completed specialized diplomas in comparative and civil law at the Université de Sherbrooke.

Mr. McGuinty has been President and Chief Executive Officer of the National Round Table on the Environment and the Economy since 1996. Prior to his appointment, he was the resident environmental law and policy training specialist with the International Development Law Institute in Rome, Italy, and an environmental lawyer with U.K.-based Gouldens Solicitors, working on corporate mergers and acquisitions, European Union legal matters, and environmental issues. Formerly with the United Nations, Mr. McGuinty worked for the ratification of the International Convention on the Rights of the Child in 22 countries in West and Central Africa.

Mr. McGuinty is an advisory board member of the Institute of the Environment, University of Ottawa, and an advisory board member of the Erivan Haub Program in Business and Sustainability, Schulich School of Business, York University.

Martha C. Piper

Martha C. Piper has served as President and Vice-Chancellor of the University of British Columbia (UBC) since 1997. UBC is one of Canada's largest and most prestigious research universities and, as President, Dr. Piper is deeply committed to working with students and faculty in strengthening UBC's position as an international leader at the forefront of learning and research.

Dr. Piper's commitment to the advancement of research has identified her as a leader in the research community. She has served on numerous research and development boards, such as the Alberta Research Council and the Interim Governing Council of the Canadian Institutes for Health Research. She is a member of the Advisory Council on Science and Technology, which reports to the Prime Minister, and the Canada Foundation for Innovation.

Dr. Piper received her PhD in epidemiology and biostatistics from McGill University in 1979, and her teaching and research interests have focussed on early identification of the developmentally delayed infant, and on assessment of specific approaches used in the treatment of physically and mentally handicapped children.

Victoria J. Sharpe

Dr. Victoria J. Sharpe is President and Chief Executive Officer of Sustainable Development Technology Canada. Previously, she was President of GRI Canada and Astral Group, where she demonstrated leadership and vision in the use on innovative technologies in the energy sector. Dr. Sharpe has more than 15 years of experience in the energy industry and has, over the course of her multifaceted career, successfully integrated sustainable development into business practices. She built an international business in energy efficiency and the environment while serving as Vice-President of Ontario Hydro International. Prior to this, Dr. Sharpe was responsible for leading-edge marketing, business development and technology innovation in the industrial sector, serving in various management positions at Ontario Hydro.

Dr. Sharpe has served as an international advisor and representative on sustainability issues, and represented the Canadian energy sector at the Asia Pacific Economic Co-operation Business Forum. She has chaired several boards, including the National Advisory Board on Energy, Science and Technology, and Clean Air Canada Inc., and has co-chaired the City of Toronto's Sustainability Roundtable.

Dr. Sharpe holds a BSc Honours in Applied Biology from Bath University, U.K. She earned her PhD in Microbiology and Chemistry from Trent University, U.K. where she spent five years as a doctoral researcher and lecturer.

Richard H. Smith

With almost 30 years of experience in the pharmaceutical, agricultural and biochemical industries, Richard Smith leads Dow AgroSciences Canada as President and Chief Executive Officer.

Mr. Smith got his start at Eli Lilly and Co. in early 1973 as a pharmaceutical sales representative. In 1979, he transferred to the Elanco agricultural division, where he held several senior management positions. In 1989, when the DowElanco joint venture was formed, Mr. Smith headed its western crop business. In 1992, he assumed commercial responsibility nationally for DowElanco's business until his appointment to his current position in February 1997.

Mr. Smith is Chairman of the Board of SemBioSys Genetics Inc. of Calgary, an agricultural biotechnology company formed in partnership with the University of Calgary. He is also Chairman of the Board of Directors of the Crop Protection Institute of Canada, and is one of two industry members who represent the institute on the Multi-Stakeholder Economic Management Advisory Committee.

Mr. Smith has a master's degree in biochemistry from the University of Waterloo.

Stuart Lyon Smith

Dr. Stuart Lyon Smith completed a seven-year term of service as Chair of the National Round Table on the Environment and the Economy in June 2002, a post to which he was appointed by the Prime Minister. Under Dr. Smith's guidance, the round table brought together industrial interests and environmental groups, gaining and maintaining the trust of both sides while advancing the cause of sustainable development.

Since 1990, Dr. Smith has been Chairman of the Board of Ensyn Technologies Inc., a company that upgrades heavy petroleum fuels, and produces chemicals and clean energy from biomass. He is also senior advisor to ICF, an international consulting firm specializing in energy and the environment; a director of Capital Alliance Ventures Inc., an Ottawa-based venture capital firm in the technology field; and a Director of Synexus Global Inc., specialists in efficient production and energy use, and International Datacasting Corporation, a satellite-based communications company. He serves as Chair of the Board of Governors of Humber College in Toronto, having previously been a Governor at the University of Ottawa and Chair of the Board of the Ottawa General Hospital.

From 1982 to 1987, Dr. Smith was Chairman of the Science Council of Canada, alerting Canadians to the importance of new technology. Author of *Technology and Work in Canada's Future*, he has been honoured by awards from the Canadian Advanced Technology Association, Mount Allison University, Royal Roads University, Ryerson Polytechnic University, Conestoga College and the Government of France.

Grant Trump

Grant Trump is currently President and Chief Executive Officer of the Canadian Council for Human Resources in the Environment Industry. His prior professional activities include 18 years of involvement in post-secondary education in Western Canada. As a trained chemist, his interests in recent years have largely been focussed on environmental employment to ensure that the industry, government and education sectors work cooperatively in the environmental training field on national and international levels.

Dr. David Zussman

Dr. David Zussman is President of the Public Policy Forum, an independent, not-for-profit organization whose mandate is to improve the quality of public policy and public sector management in Canada by promoting dialogue among the public, private, labour and voluntary sectors. Dr. Zussman has held a variety of positions in government, the private sector and academia. He is the author and co-author of a number of publications, and sits on numerous public and private sector advisory boards and boards of directors.

APPENDIX 8

SUMMIT PARTICIPANT LIST

Abrioux, Dominique, President,
Athabasca University, AB

Adams, George, President & CEO,
University of Toronto Innovations Foundation, ON

Adams, Peter, MP,
House of Commons, ON

Adamson, Richard, Vice-President,
Mariah Energy Corporation, AB

Adey, Trevor, President,
Consilient, NF

Al Zaibak, Mohammad, Chairman & CEO,
HelpCaster Technologies Inc., ON

Alboim, Naomi, Fellow,
Queen's University, ON

Alexander, Taylor, President & CEO,
Canadian Association for Community Care, ON

Alfano, Jim, President & CEO,
Stelco Inc., ON

Allan, Donna, President & CEO,
Lethbridge Community College, AB

Allan, Elyse, President & CEO,
The Toronto Board of Trade, ON

Allen, Vic, CEO,
Upper Canada Networks, ON

Alleruzzo, John, Director,
Unite, QC

Altoft, Katie, Project Manager,
Canadian Standards Association, ON

Alvarez, Richard, President & CEO,
CIHI, ON

Antle, Paul, President & CEO,
Island Waste Management Inc., NF

Arcand, François, CEO,
Medicago Inc., QC

Argall, John, Executive Director,
BioAtlantech, NB

Ashley, Brad, President,
PRIVEQ Capital/Canadian Venture
Capital Association, ON

Audet, Michel, président,
La Chambre de commerce du Québec, QC

Avison, Don, President,
The University Presidents' Council of B.C., BC

Ayling, John, Director,
Region of Halton, ON

Bachynski, Morrel, President,
MPB Technologies Inc., QC

Baiden, Greg, Chairman &
Chief Technology Officer,
Penguin Automated Systems Inc., ON

Baillie, Charles, Chairman & CEO,
TD Bank Financial Group, ON

Ballard, Dennis, Mayor,
City of Flin Flon, MB

Banigan, John, Assistant Deputy Minister,
Industry Canada, ON

Barge, Brian, President & CEO,
Canadian Microelectronics Corporation, ON

Barkley, Doug, Executive Vice-President,
EDS Canada, ON

Barlow, Reni, Managing Director,
Youth Science Foundation of Canada, ON

Barnard, David, President,
University of Regina, SK

Barnes, Peter, President & CEO,
CWTA, ON

Barratt, Greg, President,
Communtech Technology Associates, ON

Barron, Carole J., Executive Director,
Canadian Council on Rehabilitation and Work, ON

Bascombe, Dianne, Interim Executive Director,
Coalition of National Voluntary Organizations, ON

Beale, Elizabeth, President & CEO,
Atlantic Provinces Economic Council, NS

Beale, Marny, President-Elect,
Canadian Association of Principals, ON

Beamish, Bob, Chairman,
The Woodbridge Group, ON

Beatty, Perrin, President & CEO,
Canadian Manufacturers and Exporters, ON

Beatty, Stephen, Vice-President,
Toyota Canada Inc., ON

Beaudin, Arnold, directeur,
Développement stratégique
Montréal International, QC

Beaulieu, Frédéric, directeur général,
GATIQ Technorégion, QC

Beaupré, Bernadette, Co-Chair,
Canadian Coalition of Community Based Training
(CCCBT), ON

Bédard, Pierre, Vice-President,
Biomep, QC

Bélanger, Monique, Director, Policy and Projects,
Canadian School Boards Association, ON

Bélanger, Pierre, président-directeur général,
La Cité de la biotechnologie et de la santé humaine
du Montréal métropolitain, QC

Bell, Dan, President,
Canadian Automotive Repair and
Service Council, ON

Bellido, Francis, President and
Chief Operating Officer,
Société générale de financement du Québec, QC

Benoit, Suzanne, vice-présidente,
Fédération canadienne pour l'Alphabétisation
en français, ON

Benson, Phil, Lobbyist,
Teamsters Canada, ON

Berger, David, Founder, Owner and Creative Director,
Regional Innovation Strategies, QC

Bernstein, Alan, President,
CIHR, ON

Best, Robert, Vice-President,
Association of Universities and Colleges
of Canada, ON

Betts, Norman, Minister,
Business New Brunswick, NB

- Bevilacqua**, Maurizio, Secretary of State, International Finance, Government of Canada, ON
- bich**, geneviève, vice-présidente, Relations du travail, Bell Canada, QC
- Biggs**, Margaret, Assistant Deputy Minister, Programme d'investissement dans la personne, QC
- Birch**, Gary, Executive Director, Neil Squire Foundation, BC
- Bjerring**, Andrew K., President & CEO, CANARIE Inc., ON
- Blair**, Kay, Executive Director, Community MicroSkills Development Centre, ON
- Blakely**, Bob, Director of Canadian Affairs, Building and Construction Trades, ON
- Bois**, Denis, directeur, Centre d'aide au développement technologique, QC
- Boisvert**, Larry, President & CEO, Telesat, ON
- Bosse**, George, membre du Comité exécutif, Ville de Montréal, QC
- Bourgeois**, Charles S., Executive Vice-President, Montréal TechnoVision, QC
- Bourget**, Edwin, vice-recteur à la recherche, Université de Sherbrooke, QC
- Bowles**, Sarah, Citizen, ON
- Boyko**, Ian, National Chairperson, Canadian Federation of Students, ON
- Brazeau**, Michel, CEO, Royal College of Physicians and Surgeons of Canada, ON
- Briggs**, Rodney, President, Canadian Education Centre Network, BC
- Brimacombe**, Glen, CEO, Association of Canadian Academic Healthcare Organizations, ON
- Britton**, Ron, President & CEO, Fuel Cells Canada, BC
- Brown**, Gerald, President, ACCC, ON
- Brown**, Michelle, Community Economic Development Coordinator, Random North Development Association, NF
- Brujins**, Peter, President, LBCC, ON
- Brunel**, Louis, président-directeur général, Institut international des télécommunications, QC
- Brzustowski**, Thomas, President, NSERC, ON
- Buchanan**, Alan, Director, Aliant Inc., PE
- Bulloch**, John, Chairman & CEO, VUBIZ.com Ltd., ON
- Bulte**, Sarmite, MP, House of Commons, ON
- Bureau-Tobin**, Nicole, conseillère, Association de l'industrie des technologies de la santé (AITS), QC
- Burns**, Deborah, Executive Director, Planning and Advocacy, Government of New Brunswick, NB
- Burton**, Howard, Executive Director, Perimeter Institute for Theoretical Physics, ON
- Calla**, Mario, Executive Director, COSTI Immigrant Services, ON
- Campbell**, Alex, Deputy Minister, Sustainable Development, Government of Nunavut, NU
- Campbell**, Terry, Vice-President, Canadian Bankers Association, ON
- Canuel**, Robert, Vice-President, Hallmark Canada, ON
- Caplan**, Elinor, Minister, National Revenue, Government of Canada, ON
- Cappon**, Paul, Director General, Council of Ministers of Education, Canada, ON
- Cardozo**, Andrew, Commissioner, Canadian Radio-television and Telecommunications Commission, ON
- Carey**, Tom, Associate Vice-President, University of Waterloo, ON
- Carroll**, Diane, Assistant Deputy Minister, Environment Canada, ON
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