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REPORT OF PROCEEDINGS  
(HANSARD)

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SELECT STANDING COMMITTEE ON  
**CROWN CORPORATIONS**

**Victoria**

**Wednesday, January 17, 2007**

**Issue No. 7**

IAIN BLACK, MLA, CHAIR

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**SELECT STANDING COMMITTEE ON  
CROWN CORPORATIONS**

Victoria  
Wednesday, January 17, 2007

*Chair:* \* Iain Black (Port Moody–Westwood L)

*Deputy Chair:* Guy Gentner (Delta North NDP)

*Members:* \* Ron Cantelon (Nanaimo-Parksville L)  
\* Blair Lekstrom (Peace River South L)  
\* Joan McIntyre (West Vancouver–Garibaldi L)  
Dennis MacKay (Bulkley Valley–Stikine L)  
\* John Rustad (Prince George–Omineca L)  
\* Corky Evans (Nelson-Creston NDP)  
\* John Horgan (Malahat–Juan de Fuca NDP)  
Chuck Puchmayr (New Westminster NDP)

*\*denotes member present*

*Clerk:* Craig James

*Committee Staff:* Jonathan Fershau (Committee Research Analyst)

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*Witnesses:* Dr. David Dolphin (CEO, B.C. Innovation Council)  
Hector MacKay-Dunn (Chair, B.C. Innovation Council)  
Sam Nakai (B.C. Innovation Council)



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MINUTES

# SELECT STANDING COMMITTEE ON CROWN CORPORATIONS



Wednesday, January 17, 2007

9:30 a.m.

Douglas Fir Committee Room  
Parliament Buildings, Victoria

**Present:** Iain Black, MLA (Chair); Ron Cantelon, MLA; Corky Evans, MLA; John Horgan, MLA; Blair Lekstrom, MLA; Joan McIntyre, MLA; John Rustad, MLA

**Unavoidably Absent:** Guy Gentner, MLA (Deputy Chair); Dennis MacKay, MLA; Chuck Puchmayr, MLA

**Others Present:** Jonathan Fershau, Committee Research Analyst

1. **Resolved**, that today's agenda be approved.
2. Pursuant to the Committee's mandate, the following witnesses appeared before the Committee:  
  
British Columbia Innovation Council:
  - Dr. David Dolphin, Chief Executive Officer
  - Hector MacKay-Dunn, Board Chair
  - Sam Nakai, Director of Programs
3. The Committee met in-camera to review their meeting with the British Columbia Innovation Council.
4. The Committee met in public session.
5. The Committee adjourned at 11:49 a.m. to the call of the Chair.

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Iain Black, MLA  
Chair

Craig James  
Clerk Assistant and  
Clerk of Committees





WEDNESDAY, JANUARY 17, 2007

The committee met at 9:38 a.m.

[I. Black in the chair.]

**I. Black (Chair):** Good morning, ladies and gentlemen. I'd like to call the meeting to order of the Select Standing Committee on Crown Corporations, with our guests and witnesses this morning from the B.C. Innovation Council. I would like to start by introducing myself. My name is Iain Black. I'm Chair of the committee.

Before we walk through a brief agenda and kind of the focus of today's meeting, I'd like to give my colleagues, members from the Legislature, an opportunity to introduce themselves. I'll start to my right.

**B. Lekstrom:** My name is Blair Lekstrom. I am the MLA for Peace River South.

**R. Cantelon:** Ron Cantelon, Nanaimo-Parksville.

**J. Rustad:** John Rustad. I'm the MLA for Prince George-Omineca. I just want to say happy new year.

**J. McIntyre:** I'm Joan McIntyre, the member for West Vancouver-Garibaldi.

**I. Black (Chair):** And on my left.

**J. Horgan:** John Horgan, MLA for Malahat-Juan de Fuca. I want to apologize in advance. I have to make my way to Vancouver at about 11:10. I'm hopeful I can get a question in before then.

**C. Evans:** Morning. I'm Corky Evans. I'm the MLA for Nelson, Creston, Slokan, New Denver, Silverton, Nakusp and Kaslo.

**I. Black (Chair):** We are also aided this morning by our research analyst Jonathan Fershau and, to my immediate left, Craig James, who is our Clerk Assistant and Clerk of Committees. Behind us we've got our ever-capable staff from Hansard recording our every move.

Ladies and gentlemen, before we get started this morning and before I turn things over to our guests, I would like to repeat my welcome to the B.C. Innovation Council and basically give you an explanation of the focus of this select standing committee. As you can see, it's a multiparty committee of the Legislature. The focus in this committee really is to answer four questions and report the results of those questions back to the Legislature and the members within it.

The first one is for us to analyze various Crown corporations within the province and make a report based on their ability and our ability to determine four things. The first one is to understand what your mandate is and to see that you understand what your mandate is. The question then follows: how do you know

that that's your mandate? That becomes an issue of linking it to service plans, etc.

[0940]

The third question we try to answer is: how have you performed relative to the expectations that have been set out for you with the communications with the government and yourselves? The fourth question then says: how do you know that? That speaks to issues of operating models and measurement systems that exist within your organization.

With a broad-based desire to answer those questions, we have meetings such as this one, where we have three distinct parts to it. The first is where we turn the floor completely over to you to take about an hour to walk us through an overview of your organizations with that kind of a framework in mind.

Then we go from there to a series of questions and answers. We normally take up to an hour. After that we would bid you a good day and will go into an in-camera session, where we will discuss both the presentations and answers received to our various questions.

Do you have any questions of me before we start? Then, let me give you the opportunity to introduce yourselves, and from there we'll launch right into your presentation. Over to you.

#### B.C. Innovation Council

**H. MacKay-Dunn:** Thank you, Mr. Chair and Members, for the opportunity to come here today to present the B.C. Innovation Council story. I will introduce our colleagues here today. First, on my right is Dr. David Dolphin, who is our CEO. I'll have a few more remarks about David's background at the conclusion of my opening.

To my further right is Sam Nakai. Sam is our director of programs. He's been with us now for almost seven years. Sam's job, among other things, as director of programs is to really oversee and assist in the design and implementation of new programs.

I regret to say that a fellow board member, our longest-serving board member, Dr. Tim Walzak, will not be able to be with us today. He just phoned prior to the opening of our proceedings. There is a family emergency.

I would like to just comment about Dr. Walzak. As I say, he is one of our longest-serving members. He's the president of the University of Victoria's Innovation and Development Corp., the technology transfer engine, really, of the University of Victoria — to give you a sense of what he does for his day job.

Of course, my name is Hector MacKay-Dunn. I'm chair of the council. In my professional life I've had the privilege for over 30 years of working with some of the country's leading innovators and entrepreneurs. I've watched as they start from, literally, their kitchen tables and garages and out of the trunks of their vehicles with a dream and an idea, right through to becoming billion-dollar companies with very successful operations — and, of course, more than our share of failures along the way. That's our background.

In the past year the council, as you may know, has undergone a significant enhancement in our leadership at the board level following the merger of our predecessor organizations, the Science Council, which became the Innovation and Science Council of B.C., and the B.C. Advanced Systems Institute. The Innovation and Science Council and the Advanced Systems Institute themselves were both leading technology organizations in our province with a rich history of activities that played key roles in developing the research and innovation sector in this province.

On March 30 of last year government moved forward with the appointment of seven additional board members. Joining Dr. Tim Walzak and me now is Mr. Greg Aasen. Greg, as you may know, is a co-founder and the chief strategy officer of a highly successful semiconductor company based here in Burnaby, PMC-Sierra.

Dr. Max Blouw is the now outgoing VP of research of the University of Northern British Columbia and, happily but also sadly, recently announced as the incoming president of Sir Wilfrid Laurier University. Mr. Jock Finlayson, a well-known economist, is the executive vice-president of the Business Council of British Columbia.

Mr. Richard Glickman is really one of the province's leading, if not the leading, biotech entrepreneurs. Currently, you may know, he is the founder, CEO and chairman of Aspreva Pharmaceuticals, which is based right here in Victoria. Aspreva joins QLT and Angiotech as three of the world's 24 profitable biotech companies, so we are pleased that Richard was able to join us as well.

[0945]

Dr. Ken Higginbotham is the vice-president, forestry and environment, of Canfor.

Mr. Greg Kerfoot is the founder and CEO of Crystal Decisions, which I think within the last two years was purchased by the North American giant, Business Objects. Greg has joined us. And of course, you may know Greg more recently and popularly as the CEO and owner of the Vancouver Whitecaps.

Last but not least is Dr. Alan Winter, who is the president and CEO of Genome British Columbia. In prior lives Dr. Winter was the CEO of, really, North America's true incubator, which was the research arm of the then B.C. telephone corporation MPR TelTech. And MPR TelTech spun off in excess of 16 separate companies, most notably PMC-Sierra — so Greg and Alan know themselves from prior lives — and Sierra Wireless, among others.

You can see that we have a broad range of expertise on our new board. We all serve as a volunteer board, and I'm pleased to share the responsibility of guiding the council with such an experienced, passionate and talented group, each of whom were personally invited by Premier Campbell to lead a newly reinvigorated council.

As the Crown agency mandated by the province to enhance commercialization and innovation, the new board recognized that one of its first important activities was

to develop a strategic plan. We commenced that planning process over the summer, and we expect to complete it this spring. The final plan will define the council's short-, mid- and long-term areas of focus as well as defining our measurements and targets for success. We look forward to sharing these plans with you in our next year's service plan.

In the interim, council continues to address the three broad goals and related activities under which the council was initially established.

Our first goal is to increase the development and commercialization of B.C.-based technologies. Developing and commercializing technologies is a vital component of an innovation-based economy. The council recognizes the importance of this and therefore plans to engage in activities that will, firstly, attract, develop and retain qualified technical personnel and technology business managers.

This area has been recognized by a whole host of different groups in recent years as being a significant gap and a barrier to fostering innovation and commercialization of our technology in our province. We happen not to be alone in that regard in this province, but it is a clear, well-established and documented gap that we need to address.

Second, we need to accelerate the transfer of technologies of the successes of the past — pick up the pace and accelerate that pace — from our research institutions into industry.

Lastly, and no small challenge in itself, is to attract early-stage funding for innovative technologies.

Our second goal is to enhance the competitiveness of British Columbia's business sectors and research capabilities. Working with industry and academia, the council intends to strengthen linkages and help build innovation capacity.

Our third and final goal is to increase awareness of B.C.'s research and innovation opportunities and achievements — never to be underestimated, the importance of awareness. We aim to inspire, and we aim to encourage both innovators and innovation.

For British Columbia to be known as a world-class technology centre, we need to proactively communicate our opportunities and achievements in a meaningful way. In this regard, council intends to play a role in partnership with complementary and like-minded organizations and the major technology industry-awareness groups.

This also means that we encourage and fan — this is very important — the passion of our province's youth and their interest in science and technology in order that the next generations of researchers and technology entrepreneurs are well supported. Moreover, it is important that we as a province celebrate the achievements of those that have gone before our youth: the world-class researchers and entrepreneurs who have contributed significantly in their fields.

[0950]

In November of last year the council hosted yet another successful awards dinner, which since 1980 has become the province's premier awards event for research

and innovation. I must say that we were all delighted this year that so many of you from government, from the House, came and joined us for our dinner. You have no idea how encouraging just your mere presence is for all of us involved — to see you there to witness what we are, what we do and to witness those achievements and see the intangible, which you can only really experience rather than read off a report or hear in a presentation.

I encourage you each and every year to come and join us, because unless you're there, you really won't be able to fully appreciate the importance of awareness, inspiration and encouragement and the role it plays both in recognizing achievement and in encouraging further achievement. So please, on behalf of the council, I would like to thank all of you who showed up. Really, the attendance by members was phenomenal.

An important element in all of these three goals is the fact that we are a provincewide organization. We're dedicated to developing the economic potential of technological innovation and commercialization throughout all of British Columbia.

This year I am pleased to report that we were able to increase support from seven to nine regions for those regions' science, technology and innovation councils and by almost doubling the funding provided to them. Our research, industry and development and scholarship programs are open to all regions in British Columbia. In fact, if you come to the council dinners that we have, each year there's a select group of science fair youth award winners, and they are well represented throughout the province.

From among that group there's typically a leadership representative who will speak to the dinner. And it never fails; it seems that usually the best speakers at the dinner are the youth. In fact, you never want to follow the youth speaker if you can help it. Typically, those speakers will come from each and every corner of the province, and that we should all be very proud of.

We are focused on specific regions outside of the lower mainland through our oceans and aquaculture sector initiatives, which David will touch on, for coastal communities and our agrifood and bioproduct sector initiatives in the interior.

As the board begins to engage in council affairs, the primary challenge that it has identified is the limitation in funding to leverage the province's contribution to put into action the necessary programs and initiatives commensurate with our mandate. You'd be disappointed, perhaps, if we didn't mention funding in our presentation. What other opportunities do we have to do so?

Having said that, the board realizes that its service to the community is paramount, so we are developing and will be introducing new programs funded through existing resources. David will outline that in part of his presentation. Our new programs include the accelerated commercialization enhancement — or what we call the ACE — program, which is designed to further develop technology management capacity in B.C.'s high-tech companies.

In addition, the recently announced \$2 million B.C. industrial innovation fellowship program will support our province's postgraduate students with support to pursue technology commercialization projects with industry partners. So we are developing a program that will take the traditional fellowship concept but apply it with technology-trained students and researchers with a focus on commercialization. We're pretty excited about what kind of catalyst that program will present.

As I enter my second year as chair, I continue to be enthusiastic about the assets of B.C.'s technology industry. It is the B.C. Innovation Council's mandate to leverage these assets and turn them into opportunities for British Columbia. It is our mission to create the conditions for top-tier innovation and commercialization within British Columbia in partnership with government, industry and academia. With that, again, please accept on behalf of our entire board and our staff our appreciation for your invitation to present and for allowing me to make these opening remarks.

[0955]

Before I turn the presentation over to Dr. Dolphin, let me just tell you a little bit about Dr. Dolphin, if I may. Dr. Dolphin joined us just a little bit over a year ago. I'm sure he's enjoyed every moment of it.

His background. Dr. Dolphin is a fellow of both the Royal Society of Canada and of London. He's been, for more than 40 years, experienced in research, innovation and commercialization, and he himself individually is a holder of in excess of 160 patents. He's considered by the world community as one of the founders of modern porphyrin chemistry and in fact was awarded by the American Chemical Society in 2004 the designation Hero of Chemistry. I'm not kidding.

Dr. Dolphin was the creator of Visudyne. Visudyne is the world's most widely used ophthalmic drug ever. Visudyne was commercialized, as I think you know, by QLT. As I've mentioned, QLT is one of the few profitable biotech companies in the world and joins a total of three profitable British Columbia biotech companies.

David is the holder of the NSERC-QLT industrial research chair in photodynamic technologies. In 2006 David was named an officer of the Order of Canada and awarded the NSERC Hertzberg Gold Medal, which is commonly known as Canada's Nobel prize.

Immediately before joining us as our CEO, David was past associate dean of science, acting dean of science and acting vice-president of research. Needless to say, we are very fortunate indeed and proud that David has joined us. Without any further ado, I'll turn the meeting over to David, if that pleases the Chair.

**D. Dolphin:** Thank you, Hector, Chair, committee. Perhaps I can echo our appreciation of being able to make a presentation.

The presentation that I am going to give you actually speaks to the four questions, Chair, that you mentioned, with a fifth one, which I think probably was included amongst one of the challenges that exist in carrying out our mandate. This is the outline of the

presentation. I've also taken the opportunity, in addition to answering those questions, to share with you some of our hopes and aspirations in terms of our future directions.

We have, as a result of the new board and the strategic planning that's going on, an updated mission statement. As you can see, it's to create the conditions for top-tier innovation and commercialization within the province in partnership with government, academia and industry.

Our mandate. There are four principal parts to our mandate. It's to accelerate commercialization in the province. It's to expand and capitalize on technology transfer from our research institutions to industry and to partner in the development and promotion of a provincewide strategy for science innovation and technology development. The fourth is to build public awareness for science and technology in British Columbia, particularly aimed at the youth of our province.

In our current service plan there are four goals: to increase the development of commercialization, to enhance competitiveness in our province in our business sectors and with our research capabilities and, again, to increase awareness of our province's research and innovation opportunities and achievements.

Our values. The council is entrepreneurial, innovative, accountable and partner-driven. Our market and partners are, as my chair has already described to you, industry, academia, government and the public. And you can see that within industry we cover all of the areas from both private and public.

[1000]

Again, if I might emphasize, when we're looking at the public sector, we focus particularly on our high school students, with the hope that we can encourage and persuade those individuals to pursue careers in our high-technology industries.

The organizational structure is what I think you would expect of a Crown corporation. We report to the Ministry of Advanced Education, where the minister is responsible for research and innovation; a board of directors; and our executive management committee. There are four areas that we focus on: programs, communication, business development and financial administration within management.

The board responsibilities are typical of those of good governance of a Crown board. They're involved in strategic direction. They assess and control risks, selection of management, legal obligations — the normal responsibilities that you would expect from a board.

The board structure. Under the B.C. Innovation Council Act, we can have up to 15 board members. We currently have nine. Any individual term may not exceed more than three years, and any individual may not exceed more than six consecutive years on the board. As you heard, of our nine board members, seven were appointed just last March.

The board committees. Again, the standard committees: audit and finance, government and board nominations, and human resources and compensation.

The board members. I can pass through this, I think. My chair has already described in detail these individuals and their past experience, but I would like to point out that they are leaders in the area of high-tech industry, government, business and academia.

The guiding documents, of course, that we all work under are the B.C. Innovation Council Act, which was amended in 2006; the Budget Transparency and Accountability Act; the Financial Administration Act; and the shareholder's letter of expectation. Our letter of expectation will be finalized in early spring, when our board has completed its strategic planning.

The commercialization cycle, which is what of course the Innovation Council addresses, starts with world-class research. Later on in my presentation I will describe the quality of the research that we have in our province. That research, through technology transfer, leads to innovative products. Those innovative products, when they're commercialized, lead to market leadership, hopefully, as is done with many of our companies in B.C. Finally, that leads to market demand, which comes back to world-class research. In the centre of this, as a catalyst for all of this, is the B.C. Innovation Council.

These are some statistics from B.C. Stats that show the relative comparisons against the other three major provinces in Canada. Nothing particularly to take from this, other than that on a per-capita basis, B.C. is doing reasonably well. But there is clearly always room for us to achieve better results.

There's a strength that the council has, which is a supportive government. As you know, our Premier said that he would like to see British Columbia be one of the top ten technology centres in the world. We're fortunate in that in the Ministry of Advanced Education the minister is also responsible for research and innovation. We understand that there will shortly be an announcement of a new ADM, who will be focusing on research and innovation in the ministry.

In the provincial budget, just last year, there was \$224 million allocated to research and innovation and \$130 million allocated to post-secondary seat expansion. In addition, over the past five or six years there has been more than \$1.2 billion put into areas associated with innovation research and technology transfer.

[1005]

Our strengths. Well, our strengths are our world-class researchers. I might just remind you of our three major research universities. The University of Victoria, just down the road, on a per-capita basis brings in more research dollars than any other university in Canada. Simon Fraser University, on each million dollars spent, has spun off more companies than any other university in the province. As you are aware, the University of British Columbia, in several international reviews recently, comes out in the top 40 universities in the world. In fact, when you remove the private universities and look at publicly funded universities, UBC comes out in the top dozen. So I think we should be very proud of that data.

In addition, we have a very strong and varied technology sector. Life sciences is very strong. ICT, new

media and wireless, clean technologies.... Of course, all of that is based originally upon our natural resources in forestry, mining, fisheries and agriculture.

A statistic that I find interesting is that in our high-technology sector, the GDP in the province is \$8.3 billion. That's in '97 dollars — the latest information I could get. That figure is rising and, hopefully, will continue to rise at an ever-increasing rate.

In addition, we now have a large number of experienced technology entrepreneurs and a growing base of technology companies. I have listed a few here; you'll recognize them. Many of them were originally supported by the Science Council and the Innovation Council. The top 20 of our high-tech companies have a \$9 billion market capitalization.

There are some opportunities for growth. OECD countries typically expect a 2-to-1 private-to-public investment in research and development. In Canada and in British Columbia, that ratio is 1 to 1 and is declining. There is clearly an important need for our industries to carry out more research and development.

When one looks at the state of the technology sector in the U.S., 80 percent of their productivity can be related to advances in technology. In Canada, 98 percent of all our companies are small to medium enterprises, which means that they have 100 or fewer employees. In our high-tech industries in British Columbia, 75 percent of our companies have five or fewer employees; 5 percent have more than 50 employees. So there is clearly an opportunity there for us to build those companies beyond what they currently are.

In terms of a level of expertise, Canada ranks 14th in the OECD countries in management personnel and their skills. So again, there is an opportunity to improve.

Finally, of the OECD countries, Canada lags on the number of graduates at the PhD level, particularly in the sciences and engineering.

The government response. I would like to give you three decades, briefly, of the government response and the success that that has given. In 1978 Dr. McGeer, who was then the Minister of Education, established three groups: the Science Council, which we have morphed into; the university-industry liaison office; and Discovery Parks — all of whom have been involved in technology transfer and commercialization.

In 1986 the Advanced Systems Institute was established to create and support technology development in the field of advanced computer systems, and just last year the Innovation Council was renamed with the completion and the amendment of the act last March.

Over the past three decades the support for research capacity.... We have, as the Science Council and the Innovation Council, supported nearly 800 graduate students. In research infrastructure we have provided grants that have enabled our researchers to compete very effectively for federal funds.

[1010]

You're probably aware that for the Canada Foundation for Innovation, on a per-capita basis, British Columbia is the most successful province. In the last Ge-

nome Canada competition, British Columbia, in competitive grant applications, received 40 percent of all the national funds. So we're doing very well there.

We have supported post-doctoral and faculty positions. Again, when we focus on the high school students, you see that we've been able to provide 68 scholarships to students who are entering science and engineering programs. We've also been able to support — and I'll give more detail — our high school students.

In terms of industrial development, we have established a number of industrial sectors, including the British Columbia Technology Industry Association, B.C. Biotech, B.C. Medical Technology Industry Association. The council has been active in forming these associations, allowing them to mature. Then, of course, they go off and become independent. In addition, we have administered \$148 million in research funding in forestry and three-quarters of a million dollars in fisheries research funding.

I would like the committee to have a look at the companies scrolling across the screen, please. I think you will recognize many of them. All of them, in their time, have been supported by the Science Council and the Innovation Council. You see that they now account for many of the top technology companies in the province.

We were able to do that by providing market assessment for research and technology, funds through the Advanced Systems Institute — \$14 million invested in technology development. One of our major programs, Technology B.C., was able over those years to provide \$135 million to the development of these technology companies that you've seen before you.

The council's budget for the past few years has been fairly stable. You can see that our base operating budget is just over \$3 million a year, and the total budget varies depending upon the other funds that we're able to bring in. For next year and '08-09, as outlined in the service plan, the budget is going to be constant at the present time.

The principal source of funds is from the provincial government. Other provincial ministries provide funds for our programs. The federal government, of course, whenever we can leverage money.... It's always one of our goals in our programs to leverage as much money as we can, whether it's from the feds, from foundations or from industry. That is always one of our major goals in our programs.

Our core business areas. There are three. They're program management, sector development, and communications and awareness.

In terms of our program management, one of the critical ones is the science and technology fund — close to \$2 million a year — which allows us to support regional councils and the university-industry liaison offices, which are the critical factors of the universities in technology transfer.

We had in the past supported seven of the nine regions in our province, but this year we were able to garner additional funds from the ministry, which now allow us to support all nine regions within the province

and also allowed us to significantly increase the support to all of those regions.

If we look at the map of the province, in blue you can see the regional councils that we support, from Fort St. John all the way down to the Kootenays and here on the Island. In green you will see the university-industry liaison offices that we support. I think you'll see seven names up there. We list six, but we count UBC and UBC Okanagan as one institute.

[1015]

In terms of program management — and these are one-time funds — we look after the research for the aquaculture and environmental fund, where we have supported 25 research projects. We've supported senior post-doctoral fellowships, and we plan and look after workshops on communication initiatives. A \$3.5 million agrifood and bioproducts science and innovation fund is under our management, and a \$400,000 health product functional food program where we support 13 researchers in the industry and are developing projects in those areas.

Additional program management faculty and post-doctoral support. We have over the years supported 30 faculty fellowships, post-graduate fellowships, student fellowships — for undergraduate students — through the TRIUMF fellowships, the IBM fellowships and the Paul and Helen Trussell fund.

In the last budget \$50 million was assigned to the natural resources and applied science research endowment fund. We are currently stewards for that money, but there is a government-appointed committee that is deciding on how those funds will be administered and how the foundation will be established.

In terms of sector development, I described to you the sectors that we have in the past initiated and supported and allowed them to mature and go off by themselves. We are currently developing oceans and marine. We have a full-time oceans and marine and energy sector development office in the council. The areas we are focusing on there are offshore oil and gas, maritime port security, and alternative ocean energy and ocean science in the Neptune and Venus initiative, which as you know comes out of the University of Victoria and is measuring a whole number of parameters in our oceans.

In aquaculture we support the B.C. Aquaculture Research and Development Committee. As you can see, there are a number of initiatives where we look at both finfish and shellfish.

Continuing with our sector development in agrifood and bioproducts. We've assisted in establishing the B.C. Bioproducts Association, and we're currently developing a \$3.5 million program in that area. Health products from functional foods — we're participating in the planning process for this industry and currently managing a \$400,000 development research fund.

More recently — and you may have read a few months ago — we have established an office of international partnerships. It'll be presided over by my chief operating officer, Ms. Cindy Lum. We were able to sign an MOU with the Chinese government long before the

federal government did. Of particular importance, the Chinese government will be stationing commercial and technical representatives in our office in the council. So we're looking forward to the future there.

When it comes to communication and awareness, again to emphasize the youth of our province, we have science achievement awards which recognize the top grade 12 students throughout the province. In addition, at the time of our annual dinner, we invite 50 regional students to come to the dinner and also spend two days in Vancouver in a career development program — very successful program, excited young students, most of whom do go on to university in the areas of science, technology and engineering.

Also, our B.C. Innovation Council awards, which are celebrated at our annual dinner. The slide may be a little confusing because it says seven categories and six individuals, and there are eight people there. This year we actually chose six out of the seven areas, and there were two teams of two — just to show you.

For those of you who have been to our dinner, I think you know how successful and what a great event it is for the province. If you haven't been to one of our dinners, may I also extend a welcome to you. You'd be very welcome, and I think you would find it very interesting.

[1020]

Opportunities — big opportunities, of course. We have a new board that has a lot of experience. We are going to build the Innovation Council into one of the key organizations in the province, and we're going to ensure that we address the practical needs of industry.

Risks and mitigation strategies. There's always the concern of the changing priorities of the funders, particularly the federal government and the foundations, and limited funding. In any program you're presented with limited funding. We're no different. But we do ensure that all of the funds we receive are levered so that we can take one dollar from the province and lever it to more than two whenever possible.

Our priorities. Given the statistics I shared with you about our high-tech industry and how small most of our companies are, our priorities are to immediately introduce some key programs that will address those concerns, and I will expand on them shortly.

The board is currently in the middle of its strategic planning. That will be completed by spring, at which time we will be able to implement all the programs that we feel are necessary. As I mentioned earlier, I think the shareholder's letter of expectation will be completed this spring once our strategic planning with the board is completed. Of course, we are always on the lookout for securing additional funds — a little more difficult at the present time with the hiatus we see in Ottawa. Hopefully, that will change shortly, and we will be able to move forward there as well.

Performance measures. The performance measures were developed during this time of transition. It has for the past two years been a time of transition when the ASI and the Innovation and Science Council were

merged into the current Innovation Council. We did for a period of time have only two board members. We now have nine. The service plan was developed during that time of transition.

As you know, the new board was appointed in March, and we're now moving forward. We will have our strategic plan estimates ready for the spring of '07. Once the strategic planning process — which is now in progress — is completed, we will be able to identify and prioritize how we're going to move forward and determine what performance measures are appropriate for those revised goals, objectives and strategies.

The evaluation. When I come to performance and evaluation of the council, the last annual report is the '05-06. We evaluated the activities there. As I say, those activities were carried over from the transition period, and so the measures that were included in the annual report were established before this transitional period.

We have three major goals. The first is to improve science and technology based on innovation and development. Let me move to those. In the first one, to increase successful research, technology transfer and commercialization.... You will see under that area, in sectoral development, that we have in fact met all the targets that we established.

The second objective under that is to increase access of B.C. research and technology organizations and companies to international science and technology opportunities. We have put that on hold during this period of transition to wait and see what the new board believes are the most appropriate things we should be doing in that area. But as I pointed out, we have established this international partnerships group so that we can move forward as rapidly as possible once we have our plans in place.

The third objective in our improved science and technology is to increase the understanding and benchmarking of British Columbia performance in those areas. We, in fact, met our targets in one area and in the other area exceeded our targets, as you can see.

[1025]

The second goal is to increase the stream of students pursuing post-secondary education in science and technology, first, by supporting scholarships in science and technology and, second, by promoting career decisions in those areas.

In the first objective, we have met our targets, inasmuch as we hoped to support 12 students last year. We were able to support 21, and we've been able to contact 100 percent of all our high school students throughout the province.

The second objective, under "Increased Students," is that 100 percent of students throughout the province were invited to participate in our career program. We met that, and 80 percent of the participating students responded positively to the programs that we were presenting to them and said that they found them to be valuable and effective. So we exceeded our targets in those areas.

Finally, the third goal, to increase public awareness in science and technology. You'll see there were two

objectives. Let me move to the first, promoting science and innovation provincially. We had hoped for 2,500 subscriptions to our newsletter. We had more than 10,000, so we certainly met that. We had hoped that the council website would be visited 5,000 times a month. It has exceeded 13,000 times a month, so we've exceeded that. And we had planned for ten organizations to fund and pursue activities with us. In fact, we have worked with 19 organizations, and so we have exceeded our target there.

In terms of increasing public recognition of science and excellence, you'll see that we have exceeded or met our targets in all of those areas, and I don't think I need to go through the details. Maybe I should just point out that the innovation dinner that we hold and that many of you have been invited to in fact results in no net cost to the council for the dinner and the awards.

The key accomplishments in the last year — the new board appointment. The strategic plan is moving forward. We're continuing with our major programs, the dinner, and we're beginning to work on our concepts for the new programs.

When I look at future directions and remind you of the strength of our technology sector and the relatively small size of our industries.... Also, when I talk to venture capitalists, the venture capitalists tell me that when they're making decisions on providing seed funds or any of the funds they provide, 20 percent of their decision is based upon the particular science that they are pursuing, and 70 to 80 percent is based upon the quality of the management team. I think that's probably no surprise. In fact, with many of our companies that you're familiar with....

Creo, for instance, didn't start off developing a printing head; QLT didn't start off to develop drugs for macular degeneration. It really does depend upon the quality of the team to be able to move forward. So in our new programs that we're planning to implement — the ACE program and the industrial innovation fellowships — we really are speaking to those needs within the province.

The accelerated commercialization enhancement program, or ACE. The concept is to provide on-the-job advanced learning to develop high-quality staff in our companies, and we will do that by increasing the management expertise. We will expand the pool of highly skilled technology managers, and we will, by doing that, enable companies to attract more private capital as investor confidence rises with the quality of the management expertise.

The other program that we announced at the dinner, which we will be implementing in the near future, is the B.C. industrial innovation fellowship. That is basically to support for two or three years graduate students at both the master's and PhD level in programs at the university which relate directly to the needs of industry. These students will be spending time both at the university and in industry to learn the skills that are needed with respect to activities in commercialization and also understanding what applied research in industry is about.

[1030]

In conclusion, in the last two slides, what I hope I've been able to do is address the four or four and a half questions that you presented us with by describing our mandate, which is to develop British Columbia's economy by enhancing commercialization of world-class technologies; to discuss the current services and programs; to describe and share with you the challenges and risks, which principally are those of the priorities of our funders.

Finally, our means of evaluation of success, new performance measures, will be determined during the strategic planning. In the interim we continue to use the previously established measures, since the current activities that we're now dealing with are carried over from the merger in the previous years. We have met or exceeded all of the targets which were outlined in the current service plan and annual report.

If I might finish with you by sharing the thoughts of Theodore Levitt — that creativity is thinking up new things. But as far as the council is concerned, we believe innovation is doing new things.

I appreciate your attention.

**I. Black (Chair):** Thank you very much, Doctor and Mr. MacKay-Dunn. It is a great overview of one of the critical areas with respect to the future of our province.

At this stage of our meeting I would welcome questions from my colleagues on the floor with respect to your presentation.

**J. Rustad:** Thank you for the presentation. I want to focus just for a little bit on China, particularly the memorandum of understanding that you've signed. Clearly, our government and the Premier have been very focused on the Asia-Pacific strategy, on those growing markets and the potential there. It was encouraging to see the MOU signed and in place.

I'm wondering if you might perhaps be able to expand a little bit on what terms were put in the MOU, how you see that progressing over the last couple of years, and how you want to see that develop and expand over the coming years.

**D. Dolphin:** I don't have with me the terms in the MOU, but I'm quite happy to provide that to the committee, should you like to see the MOU in detail. Our expectation initially is that when these officers — the commercial and the science officers — come to the council, we are going to develop programs which will enable us to increase the amount of companies that we can support here in the province and to look at the way in which we can use our technologies that are developed in the province to commercialize them, particularly in the People's Republic.

**H. MacKay-Dunn:** In terms of the glacial speed that these types of agreements tend to both get signed at the MOU stage and actually develop tangible programs that are then ultimately implemented, we are moving quickly. Our head of this initiative and our chief operating officer, Cindy Lum, is in China now

and will be meeting with representatives at the highest level of the Ministry of Technology. They will be discussing tangible ideas for programs to give effect to the MOU.

We're very gratified that the Chinese are pushing us to come up with tangible programs. There are certain industries that they have particular interest in, which they will share with us, and we're developing means by which those types of shared initiatives, or initiatives in common, can be further designed and actually implemented.

Stay tuned, I suppose, is our answer there. But take heart in the fact, and celebrate the fact, that it's actually being pushed by our partner to come up with programs that are more the near term rather than the longer term.

[1035]

What I would personally look forward to is the physical presence of a representative in our offices of the Chinese Ministry of Technology. As we all know, if you're part of the same physical area, there are certain synergies that just occur, and the communication is enhanced, and the brainstorming can happen.

I hope that on the return of Ms. Lum from China, we'll have a little more information, a little more sense of timing and framework for specific programs — certainly the direction of certain programs. We'd be happy to share the results of those meetings with you, as you wish.

**J. Rustad:** Just a follow-up on that. It would be great if you could provide that information, particularly a follow-up on Ms. Lum's return and where things progress.

Along the same lines that China is obviously one of the great opportunities in terms of expansion, India is also another opportunity. Is there any opportunity to look at something similar to what you're doing in China with India? I know that it wasn't in your presentation discussions, but from my perspective, those are two very strong, growing economies, and it would be great to be able link them with B.C.

**H. MacKay-Dunn:** I'll ask Dr. Dolphin, perhaps, or Sam may want to provide some information for you. We are at a bit of a disadvantage because our expert in this area is in China right now.

I have not had any discussions with Ms. Lum directly on India, but I'd be surprised if she hadn't had some thoughts on India that she would be able to share with you. Again, on her behalf, we pass on her regrets for not being able to be here. She would normally be here to join us, as well, but she is, as I say, in China at the present time.

**D. Dolphin:** You are absolutely correct, you know. The expectation is that within 20 years China's GDP is going to match that of the U.S. and that within 40 years India's will be the same. Clearly, they are areas in which we have got to focus.

We have had, in the council, discussions on India. In fact, just a month ago we hoped there was an oppor-



tunity that we might be able to manage a federal program between Canada and India. Unfortunately, it turned out that, being a Crown agency, we were unable to participate in a federal program. But clearly, India is going to be a region that we have to interact with in the future, and we will.

**S. Nakai:** Certainly India, like David and Hector have mentioned, is one of the growing sectors. Keep in mind that the Office of International Partnerships was established just recently, so there is an opportunity for China to come up.

If I could be specific, too, about one of the programs that we are currently looking at negotiating.... China is interested in putting in, developing, a \$4 million program that would essentially look at different research projects that would benefit both China and B.C., connecting the research with industry and pursuing those opportunities there. We can provide some more details once we get that.

**D. Dolphin:** While I didn't emphasize it, I think one of the.... There are two reasons why I think the People's Republic was interested in working with the province. One is the close connection that Ms. Lum has with some of the senior individuals. But British Columbia is recognized in North America as being one of the leading jurisdictions when it comes to the commercialization of university research.

We are, in fact, depending on whose study you look at, probably number 10 in North America. When you consider our size and the competition, I think we should be very pleased with that. With the Chinese now building 500 new universities, and with the enormous amount of research that is going to go on, I think they see that we will be able to help them commercialize some of their research as well.

**J. Rustad:** It certainly is staggering when you hear numbers like that on what's going on. But you've got more than a billion people and with that kind of growth....

**J. McIntyre:** I would just like to thank you very much for coming here today and giving us such a thorough overview of what the Innovation Council is doing and where you're putting your emphasis.

[1040]

I appreciate that you're coming through a period of transition, and I look forward to seeing what emerges from the strategic plan this spring. I think that'll be important in terms of where you're going and where you're headed, but you've given us some good direction.

I also applaud the efforts to try to close this commercialization gap. We know, as you say, that we have incredible international world-class research right here in our province, and it's very important that we're able to translate that into companies and also, obviously, top-notch jobs for our youth. I also appreciate the emphasis on youth. I did see the youth speaker at your awards

dinner, and you're right. They're fantastic. It's wonderful that we can contribute to the development of youth in our province.

To my question. Actually, I was kind of interested in what you see as perhaps the external challenges for innovation here in the province. You know, I'm sure you've got thoughts on that, so I'll turn that to you.

**D. Dolphin:** Let me start off. I think the challenges are one of competition from the rest of our provinces and North America and, in fact, the whole world. When you look at the Canadian statistics — of which B.C. is quite typical — when it comes to productivity, we are, I think, 13th in the OECD countries.

When it comes to the size of our companies and the manner in which we can promote them, we are always in strong competition. I look, for instance, at.... I've got some statistics here from Quebec. Quebec has just announced an \$888 million, three-year program to support innovation technology — specifically, actually, focusing on small companies.

You look at Ontario — a \$1.2 billion program just announced. The competition is increasing, and we have got to be sure that we not only keep up, because it's a moving target, but that we can move ahead. I think the worldwide competition is a major problem with this.

**H. MacKay-Dunn:** There isn't a jurisdiction that you would travel to — in any state of the United States, any province or outside North America — where.... If you read the front page headline, there would always be some jurisdiction announcing some program with large dollar amounts associated with it. Of course, you always have to look behind the headline, because there are lots of dollars that have been announced by certain jurisdictions that are announced again and again, and you're not quite sure where the money actually goes and how it may be applied.

I think that with Dr. Dolphin's comment about the competition, when you are faced with these initiatives in different jurisdictions, however tangible and however real they may or may not be, there is a certain pressure that mounts on us.

We talk about technology and life sciences and biotechnology. The world has awakened to the value of these industries, and government has. So each government is now.... They may have been asleep at the switch a decade ago, but they look to see what B.C. has done, and they want to be us, and they want to be ahead of us.

You know, it's not enough for the Canucks to beat the Maple Leafs, although we do applaud the Canucks beating the Maple Leafs. There are other things that people, for bragging rights.... You know, it's a significant psychological pressure that we face.

Throwing money at an idea or a goal is not the answer. We have to be innovative, if you can forgive me, and smart about how we design our programs and then have those ideas supported financially and in other ways and with other resources. Throwing money is not the answer.

There are a lot of bricks-and-mortar and a lot of white-elephant programs we can look at throughout the world with great dollar amounts associated with them but with very few results. So while we mention, as part of our presentation, that funding is a challenge and the competitive nature of the recognition by other jurisdictions of the need for innovation, I think David has got data that explains how key innovation is to productivity and for advancement. But money in itself is not the answer.

[1045]

That's why we're so delighted that we have the board we have, because we have a board of innovators, leaders. As the chair, I'm heartened to say that the type of involvement of our board is incredible. I mean, these are volunteers. We're all volunteers.

We have an ad hoc working group committee — I'm not sure you mentioned it in your slide, David — of key members of our board just brainstorming over program development. They're a very active board, and they keep our management on their toes and challenged. We have to come up with something new. The tried and true is not going to be the answer for the future.

It's the people that matter, in addition, but we need the people and the resources associated with that, with these new ideas, to address the competitive nature. That's why the awareness program is so important. We may think awareness programs are a bit of fluff, but they're critical.

Again, to be able to convince the uninitiated, the business people, the entrepreneurs or the youth to decide whether they should come or stay in B.C.... They have to feel good about what's happening in B.C. and the opportunities in B.C. If we don't spread the word about that in a meaningful way.... That is, it has to be serious and supportable, but unless we spread the word about the opportunities and the achievements of those that have gone before them, that individual may choose another jurisdiction.

As I said in my opening remarks, we cannot over-estimate the importance of simple awareness. That is perhaps a little more difficult to measure, but I think that now, in the world of the Internet, the hits on our website might help in terms of measuring those successes.

**S. Nakai:** In addition to the awareness, when we look at program management and the sector development activities.... When we look at funding a project, for example.... More so than only funding the project, it's also funding research capacity in the province. It's funding the capacity in the province.

For example, when we do fund a research project, what we're doing is supporting the researcher and engaging him or her in the provincial research activities that are happening. I think that's an important component, too, because innovation is really based on knowledge. Knowledge is people, and people are the most portable asset to the province.

**H. MacKay-Dunn:** To conclude, it's a fiercely competitive market out there. Jurisdictions that may

historically not have been involved or interested have been, both on this continent and elsewhere.

**J. McIntyre:** That was a very thorough answer. It just twigged me. Do you have a sense of whether we actually have an in-migration of people coming to B.C. to study here and work here because of the developing reputation you're talking about? Or are we actually — because you say it's so competitive — losing some of our talent?

**H. MacKay-Dunn:** I'm going to ask David. He's best qualified to answer that.

**D. Dolphin:** I think the answer is that we are seeing an in-migration in high-tech and the highly qualified people, particularly amongst students. As our universities begin to be appreciated around the world and the quality is understood, we are now seeing — and I can only speak for UBC, but I know it's true around the province — a significant number of students from Asia who come to study in our master's and PhD programs.

My experience is that about two-thirds of those students choose to stay in British Columbia. I think that's very important. The area where we are lacking is in skilled management. We can bring those people in, and we do bring them in. But we have got to grow our own in-house at a faster rate.

**H. MacKay-Dunn:** When we talk about management, we mean management.... Also, in particular, for a province — and a country — that depends historically on trade, we are sorely lacking in marketing and sales capabilities at senior levels. No one will argue with that. That is a well-recognized, across-the-board gap.

[1050]

One of our programs that we're developing and are passionate about — we've just got to figure the best way of delivering it in a meaningful way — is in-house development of that kind of mentoring — senior marketing expertise and sales expertise personnel mentoring of the next generation in the work environment. It's not good enough to have courses on marketing or sales. We all know that most of what we know we did not learn in our school environment — with all due respect to Dr. Dolphin. My professors certainly would confirm that that was my experience.

We need to have leadership and mentoring within companies in order to develop that team mentoring and that expertise. That's the reason why one of the key programs we are developing is focusing on that universally recognized gap.

**J. McIntyre:** So it's good news. It's moving in the right direction, but you've identified the gaps, and it's important, so we'll have to...

**H. MacKay-Dunn:** With your help.

**J. McIntyre:** ...put our resources behind that.

**I. Black (Chair):** I'm going to exercise the Chair's prerogative here and ask a question of my own. Having spent 15 years in the area that you are now working in, you saw me nodding my head a fair bit, because my own personal experience is very consistent with what many of your remarks reflected this morning.

The one thing that caught my attention, though, is that despite the fact that we do have recognition growing in British Columbia for the work you're doing and the research and innovation that takes place here, the service plan report that you published had two comments in it that caused my eyebrows to go up in alarm a little bit. One of them was with respect to the available venture capital funding beginning to decline in the year 2010.

Given the strong foundation, given the growing reputation, given that all the other elements of this story are so strong, one of the things that has always been a bit of mystery is the venture capital markets within British Columbia, especially in the small- to mid-sized, the micro-cap, small-cap arena. I would like your comments, if I may, as to why you think this is the case. And what role does the Innovation Council have in helping to solve that problem?

**H. MacKay-Dunn:** Let me begin, and David and Sam are welcome to supplement my observations. It is well recognized as a trend, not only within our jurisdiction and not only within Canada but in North America, that the activity of venture capital funds investing in early-stage enterprise has declined dramatically in this decade versus the '90s or the '80s.

Let's keep in mind that biotech, for example, as an industry didn't exist before the '80s. I've been involved in biotech since the mid-'80s, and there are about three other people in the country that have been involved since the mid-'80s, Dr. Dolphin being one of them. And in the high tech....

I started my practice advising PhD graduates from UBC who decided they were going to be heads of marketing for early-stage companies. One of them — MacDonald, Dettwiler — hasn't done half badly since then. But it was quite an experience for me as a young lawyer to be working with these PhDs — people way smarter than I'll ever dream of being, and they knew nothing about marketing — and trying to help them negotiate market and sales agreements. It was quite an experience.

What I say is that in those days we were all too stupid to know any better, so venture capitalists and early-stage funders didn't have the sophistication they do now. They would invest in early ideas and get excited and be more readily able to do that, in those days. But now they've done it. They've had the experience of ten or 20 years of investing, so they're all a lot smarter than they used to be, and they are better able to assess the risks of investing in the early stage. And there is great risk. The expression I have is: there's nothing venturesome these days in venture capital.

The trend of venture capital investors.... And all they're trying to do, you know.... We probably, in our

RRSPs, invest in these funds. If anything, we all have ourselves to blame, in some sense, because we would like a return on our retirement funds. These venture capital funds are looking to get these returns.

[1055]

They see the data for investing in early-stage companies. They realize they'd rather wait to eliminate some of the risk and invest in companies maybe after they've got off the kitchen table and actually got premises and got better-developed business plans. Maybe the companies' managements have made their first mistakes and got their first mistakes behind them. Then, perhaps, the venture capitalists will consider investing.

As David alluded to, the companies that are successful in innovation are never successful on their first project. They almost universally never succeed on the basis of the reason they actually started their business in the first place. They almost never succeed.

**C. Evans:** That's true of politicians too.

**H. MacKay-Dunn:** I defer to the member in that regard.

You need the people, so venture capitalist investors tend to, say, wait for that first venture to fail, and then they'll try on the second time around. There's lots of money around. In Canada, and in B.C. in particular, we need more competition in the venture capital funds. That's no real fault of government policy.

There are U.S. funds — DYN. They have invested in Canada and B.C., and they are looking to increase that investment activity. There are some non-fiscal barriers to that investment that relate to — and I won't bore the committee with this right now — the Canada-U.S. tax treaty, which are being in it now. They've got the attention of the federal Minister of Finance. It's a federal issue and, hopefully, will be dealt with in the next budget.

Once that barrier is removed, my hope is that the already increased interest in U.S. funds investing in Canadian opportunities will be allowed to actually translate into real investments once those barriers are removed. With the result of increasing the competition at the local level, it won't only be the Canadian VCs that are looking at opportunities, but there'll be a real even playing field for U.S. VCs to look at the same playing field.

I can tell you that you can have five different VCs look at a project and have only one think it's a great idea. Guess what. You only need one to get the ball rolling. You don't need a majority. I'm hopeful that the increased activity and competition in B.C. with venture funds — not just B.C.-based and Canadian-based, but U.S.-based — will get some more action going.

There are other ideas that have been kicked around, perhaps specialized funds. A lot of other jurisdictions, in the U.S. in particular, have created state-backed early-stage venture funds. There are pluses and minuses to those types of ideas. Again, these are still concept initiatives in other jurisdictions, and I think the jury's

out on whether or not that's the answer. I know that idea has been kicked around in B.C. over the years, and for a number of reasons it has not been brought forward.

I think there is a general cultural change, where investors are more sophisticated. They're more reluctant to go in early. Moms, dads and friends are the ones that are more typically investing in early-stage companies. That's why the VCC program — the venture capital program that has been in place now for a couple of decades, that has been increased in recent years and is fully utilized — has been such a big help to deal with the early, early seed-stage type of funding. But the true venture-round funding is a problem that we still need to crack.

One of the initiatives at the University of British Columbia is the Centre for Drug Research, which you might have heard of. I'm not directly involved in it. My CEO is involved. The idea there is — in the life sciences, at least — that you bring the drug development in the universities on to a further stage of development, so it screens out and de-risks some of that early-stage risk that the venture funds are reluctant to get involved in.

I think it's a good initiative. I do believe, though, that there is going to mean more.... I think, really, that the fact that venture funds are avoiding early-stage funding should not be underestimated as being the real reason why there's a gap.

**D. Dolphin:** Maybe I could continue from there. It's clear that the venture capitalists are moving further downstream. If you look at the number of spinoff companies that have spun out of our universities in the past year or two, they are dramatically decreasing. Clearly, we have to address that.

[1100]

I think some of the programs that we're going to implement, whereby we're training management so that they are better prepared to prepare business plans and know how to go to the venture capitalists, are going to help. But one of the other important areas.... Even though we're recognized in our universities in the province as being amongst the best in technology transfer and commercialization, I think there is still room for improvement.

Over the past decade the investments that the federal and provincial governments have made are something like \$20 billion in basic research. The basic research and the ideas that come out of that research, particularly in British Columbia, are amazing. Where we lack, and where we need to improve, is in the translation and the commercialization of that research, and that is what our programs are going to address.

But in addition — and I see some of my colleagues from the ministry behind me — I might tell you that we are currently, the council and the ministry jointly, carrying out a strategic review of technology transfer within the province to see how we can improve it. It's already good, but the more we can improve it, the more competitive we're going to be. We will have a

report on that area by early spring to show how the province can better work together and how we can better include the regions to ensure that all of the skills and abilities there can be used to our best benefits.

**I. Black (Chair):** Related to that, there's a phenomenon that took place about three years ago where you actually had a lot of the financial community in B.C. looking for deals, effectively. There was a lack of a pipeline of opportunities and good business plans to contemplate.

Could you comment on that with respect to the experience of the Innovation Council — whether that was part of the challenge, from your view, as well, and whether that has passed us now, or whether that's actually part of the same challenge — inasmuch as the business plans available were for those later-stage opportunities versus the early ones?

Could you comment on your experience and the difficulty that was felt by the financial community a couple of years ago and how that would relate to your objective of trying to grow and expedite that commercialization that you talked about, Dr. Dolphin?

**D. Dolphin:** I think it's a continuum. I think that our young companies — the very early ones, the early angels — had problems with the early seed. I think when you see that 75 percent of our high-tech companies have five employees or fewer, clearly they need help in terms of improving their management skills and knowing how to go out and grow those companies.

I really believe that while establishing new companies is one of the focuses that we have, supporting and encouraging the small groups that we have to be able to expand is critically important. You simply cannot run a successful company, I believe, with five or fewer employees. You really have got to expand.

**C. Evans:** One of the members asked me to ask only short questions today, so I'll do my best.

**I. Black (Chair):** Could we extend that offer forward?

**C. Evans:** Firstly, I'd like to say thank you for coming here, for everything that you said, for what you do and for the progress you've made. That being said, I get wages here to criticize. That's how democracy works. So anything I might say that sounds at all critical is simply me trying to do my job and bears no relationship to how I actually feel.

I'll start with my question, and then I'll explain it. My question is: given that you're about to go through a strategic planning exercise, could you add to that process some measurement device to ascertain year by year whether your efforts, or the efforts of your sector, serve to generate economic activity and employment all around the province, or whether your activities and the activities of the sector you work with exacerbate the movement of human beings of working age and business

to Vancouver? That's my question, and it can be answered with a long answer or a simple yes or no.

[1105]

Now I'm going to explain the question in a metaphorical sense. One of the areas that I represent is called the Arrow Lakes. The Arrow Lakes has its own school board. We had a meeting last week, and the consultant who prepared the report to present to the meeting pointed out that in 1990, which is when I was first elected, there were 1,200 kids in the school system. There are now 600. The challenge for the school board is how to deliver diverse — across the countryside geographically — education with half as many kids and half as much money.

Interestingly, however, there are just as many people in the Arrow Lakes. Every house is full. It would be false for you or members to assume that there is a reduction in wealth creation in the Arrow Lakes. We're making more money logging, mining and building houses than we did 15 years ago, but because of technological change, we're doing it with no people 20 to 50. Every house that comes on the market is bought by somebody my age who is moving from Langley to a cheaper place, and every person who moves out is my kids' age — go and have kids in Calgary or Vancouver.

The middle class is gone, because technological change and innovation has made it possible to deliver medicine from 400 miles away by television — or education by video screen. Literacy in the Arrow Lakes is going down, because literacy is now no longer a book — we've got a library; it's a video screen, and we can't get high speed where the kids live. Any entrepreneur who wants to be one of those five-person companies is not coming to the Arrow Lakes, because they can't connect to the real world that you guys are talking about.

Logging, which is what I do, is happening faster than ever. We are making money, but nobody under 40 has a job, because when we invented shears, we wiped out the faller. When we invented grapples, we wiped out the chokerman. We are logging full speed ahead, and nobody is there.

I believe, because I get paid to travel, that what I just described in my little part of the world is replicated in many parts of rural British Columbia. The older people are moving in. The younger working people are moving out, and they are going to where the work is, which is being driven by you folks.

**I. Black (Chair):** Remember your promise, Member.

**C. Evans:** Yeah.

I think you get the gist. I think you are doing great stuff, but I think it's destroying.... Not you, but modern life is changing community life in rural British Columbia to the negative. When I first learned how to use a computer and became aware of all the capabilities, I thought government would go out to the countryside. I thought Crown corporations would be headed up in Prince George and Courtenay and Nanaimo...

**I. Black (Chair):** Kamloops.

**C. Evans:** ...and Creston. I thought that the professions would want to flee to happier places. That's not what technological change is doing. It is consolidating control — making bigger companies. You can now be the forester for Pope and Talbot from Portland. You don't gotta live in Nakusp. Push the button, and the satellite tells you where the trees are, and you order somebody to go cut them down with a machine.

My question is simple: will you add to the strategic plan an analysis of whether or not your work, and the people you work with, will create employment all around the province, or will it exacerbate the centralization of control and employment in the lower mainland?

**H. MacKay-Dunn:** The answer is yes.

**C. Evans:** Thank you.

**H. MacKay-Dunn:** Now, let me give you some observations. First of all, the demographic observation you've made. It's funny. In my neighbourhood.... It feels like we're in the same neighbourhood, because there is a demographic shift occurring. And I'm no expert on that, but it's just that, again, you observe it.

[1110]

The good news is in innovation and technology and in life sciences. Those are the future. The people that are in those jobs are not the 50-year-olds. They're the 20.... In fact, in the high-tech space, most typically the web-solution type of companies and so on, of which we have a number in the province.... They're the young people. So in this province, if we are going to be part of the next generation, we've got to have the youth involved in the industries that are attracting the youth, which are the technology and the life sciences industries.

You can now, as you well know, work wherever you might be physically located.

**C. Evans:** Not if you're not hooked up, sir.

**H. MacKay-Dunn:** I'm sorry?

**C. Evans:** Not if your computer doesn't work. You've got to dial up the telephone and wait 15 minutes.

**H. MacKay-Dunn:** First of all, when it comes to being connected.... I mean, you need to be connected. We can get some information about your jurisdiction and why you're not connected, but you need to be connected. We're all connected right now by our BlackBerrys.

**C. Evans:** Not at my house.

**H. MacKay-Dunn:** Well, you should be. Maybe I'll get a young tech guy to come and help you out.

The phenomenon of leaving is one that we've experienced in our province, whether in Vancouver or Victoria or in the interior. One thing I have noticed and

that I'm becoming a little more heartened by is that while your young people do go away to learn — they might just go to university or maybe get business experience — we find, certainly in my profession, that people who have left British Columbia and got their training elsewhere want to come back.

I'm optimistic that, over time, those who have left will return, but we have to make sure that they have something to return to. That's why the emphasis on the commercialization of technology and the new industry, the new economy, is so vital. Because as you've said, in the logging industry there is going to be no need. The young people's jobs are not in the same demand. But there is demand for other young people's jobs. For example, Business Objects, electronic arts and life sciences companies have a high demand and a high utility of young people.

As far as developing.... It used to be that Vancouver was the only place in the province that was the hotbed for biotechnology. We were one of the early innovators in biotech in the world. But just look at what's happening here in Victoria at the tech park, with the companies like Aspreva being based in Victoria. They went and recruited their high-quality personnel — and these are global-level players — insisting that all their key, senior people move to Victoria. The company has offices all over the world, but the primary head office is here in Victoria. They've moved from Europe, they've moved from New Jersey, and they've come here.

There are other examples. I'm sure if I knew more about the wine industry in the Okanagan, and other industries where it's spread out.... It's not just Vancouver. It's not just Victoria. We could do a bit of an analysis, I'm sure, about the impact of the new economy on the population spread. We also might just look at your connectivity issue that you seem to have, because it's important for all of us to be connected.

In my job, I'm here, and I'm connected to my office. I travel, and I'm connected to my office. I have people working on clients of mine who are key advisers that are based in the interior, who basically work out of the interior and are connected. They are able to give real-time, sophisticated advice. Sure, they might have to travel to Vancouver every now and then. But real time, from their home base in the interior....

**D. Dolphin:** If I might just add to that. I think in the council we recognize the importance of regions. That's why we have increased our support this year. I hope we can continue to do that. It doesn't address your question directly, but we certainly will ensure that that support continues. It will be very interesting as time goes on to just see what influence and effect that has.

**I. Black (Chair):** I'd like to draw this part of our meeting to a close, and I'd like to take this opportunity to thank you for your presentation, for the overview you've given us of the work the B.C. Innovation Council does and plans to do. You are in some exciting

territory. Certainly I know I can speak comfortably for both sides of the House that we wish you well on that.

Thank you for taking the time to answer our questions today. We will take a five-minute recess at this point to allow you to leave, and then we'll continue with the in-camera section of our meeting.

The committee recessed from 11:15 a.m. to 11:27 a.m.

[I. Black in the chair.]

**I. Black (Chair):** We'll call the meeting back to order, and I'll entertain a motion to go in camera, please.

The committee continued in camera from 11:27 a.m. to 11:46 a.m.

**I. Black (Chair):** We have been discussing in camera the presentation, questions and answers pertaining to the B.C. Innovation Council to the Select Standing Committee on Crown Corporations.

### Committee Meeting Schedule

**I. Black (Chair):** We've moved to the agenda item to do with discussion on future meetings. We currently have a meeting scheduled for February 2. Between now and then I'm expecting from Jonathan a draft of the report which will be presented to the Legislature once the House prorogues in February. That will have six Crown corporations included in it, and the remarks of this committee pertaining to what we saw during the presentations.

The purpose of our meeting on February 2 is to review that draft and attempt to come to resolution as to endorsing it and taking it forward to the House. I would encourage all members, upon receiving the draft, to go through it. If there are any edits that are of a non-substantive nature, I would encourage them to bring them to me, as Chair, prior to that meeting so that I can channel them back to Jonathan — just as kind of a single source back to Jonathan.

If there is something which is contextually not according to a member's recollection, then save that for the meeting. Obviously, we don't want to discuss those types of issues outside of this forum. But if they're not substantive, please feel free to bring them to me so that we can make the best use of our time as a committee when we meet on February 2.

We have also put aside a meeting for February 7 in the event that we are not able to conclude the report within the two hours allotted on the second. In my history, brief as it may be, that is not something one can predict at this stage, until we actually get to the second.

Any questions or comments on that basis? Everything's okay? I then move to any other business in front of the committee for today.

Yes?

**C. Evans:** Just to say that on both February 2 and February 7, I will be beyond connectivity.

**R. Cantelon:** Is that beyond Hope?

**I. Black (Chair):** It is beyond Hope, actually. A little beyond Merritt too.

**C. Evans:** However, I'll write to you if I have thoughts.

**I. Black (Chair):** Terrific. Please do. E-mail is.... Do you still get Canada Post service?

**C. Evans:** Yeah. I love Canada Post.

**I. Black (Chair):** Excellent. On that note, I will take a motion for adjournment.

Motion approved.

**I. Black (Chair):** We stand adjourned.

The committee adjourned at 11:49 a.m.





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