



"Diversifying Alberta's economy through technology"

ACCESS TO CAPITAL

A Challenge for Alberta Business

Prepared by:
Working Group on Access to Capital

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INTRODUCTION

The Alberta Council of Technologies www.ABCtech.ca believes that enterprise is at the heart of diversification and that early-stage enterprises deserve more credit and support for dispersing technology into the economy. Of the various keys to survival for technology-based, knowledge-intensive small and medium-sized enterprises (SME's), Access to Capital is issue #1 of the Council

Again and again we learn of technology-based, new enterprises floundering and failing because of the lack of early-stage financing. These enterprises often expire in the so-called "Valley of Death," isolated and impoverished, branded "high risk" by investors. This need not be – "baby-boomers" are preparing to transfer billions of dollars of accumulated wealth, and in retirement they constitute a unique source of business, science and technical expertise. And while Alberta's economy is robust, it is forever searching for new technologies for enhancing productivity and adding value to Alberta's carbon-based products.

To help, the Alberta Council of Technologies commissioned a working group in January 2007 to prepare a report for the 1st President's Council on Access to Capital. This Council of public and private appointees would be formed and financed to prompt action for resolving the issues identified in the Report. The mandate of the Access to Capital working group was to:

- Identify lessons learned from comparable jurisdictions that have succeeded in diversifying their economy
- Scope the dimensions of the gap in financing early-stage, technology-based SMEs
- Review and consolidate the research of others
- Clarify the roles and responsibilities of existing funding sources, appreciating the unique requirements of rural Alberta
- Propose recommendations for industry and government on how to "close the gap."

The Working Group was comprised of: Craig King, Perry Kinkaide, Erv Krawchuk, Darryl Lesiuk, Michael Lounsbury, Rus Matichuk, Stephen Murgatroyd (facilitator), Spencer Ord, Jacqueline Pambrun-Hunt, Danielle Smith David Tam, Brenda Thibault, Jim Thomson, Hugh Wyatt, and Gary Zatko. Mike Hollinshead provided invaluable assistance and contributed significantly to the report. We also received valuable advice and support from Warren Bergen and Jeremy Heigh (AVAC) and members of the Innovation Expedition including Darin P Graham, Bob Taylor, Bob Mitchell, and Don Simpson.

Our report is not definitive, nor is it the "last word." We have aimed to expose the unique features and challenges, options and recommendations for reducing the failure rate of the new pioneers of the Alberta economy.

*The Working Group
August 2007*

ISSUE RELEVANCE

Why is Access to Capital for technology-based, knowledge-intensive, SMEs important for Albertans?

1. **If Alberta is to diversify its economy for reducing its dependency on the oil and gas sector, it must ensure the availability of financial support for the growth of firms at each stage of their development.** SMEs are core to commercializing innovation, driving new, productive technologies into the economy – sustaining job creation and improving the competitiveness of the economy. But, knowledge intensive firms take time to get products to market and time to secure returns for investors. Patient capital, angel investors that understand the dynamics of knowledge intensive firms are essential for commercializing innovation.
2. **A significant problem is the pre-commercialization of gap (see Figure 1 below) – often referred to as the “Valley of Death” for entrepreneurs.** The estimated size of the gap between possible investment and actual investments is estimated to be \$5 billion annually in Canada. This gap is between the upper limit of angel financing (~\$500,000) and the lower limit for venture financing (~ \$5 million). Resolution of the “Valley of Death” problem must focus on establishing the receptive capacity for technology-based enterprises, including the formation of angel networks for attracting and developing angels and their understanding of the market, and improving the investor readiness of firms thus helping the venture capital market bridge the gap.

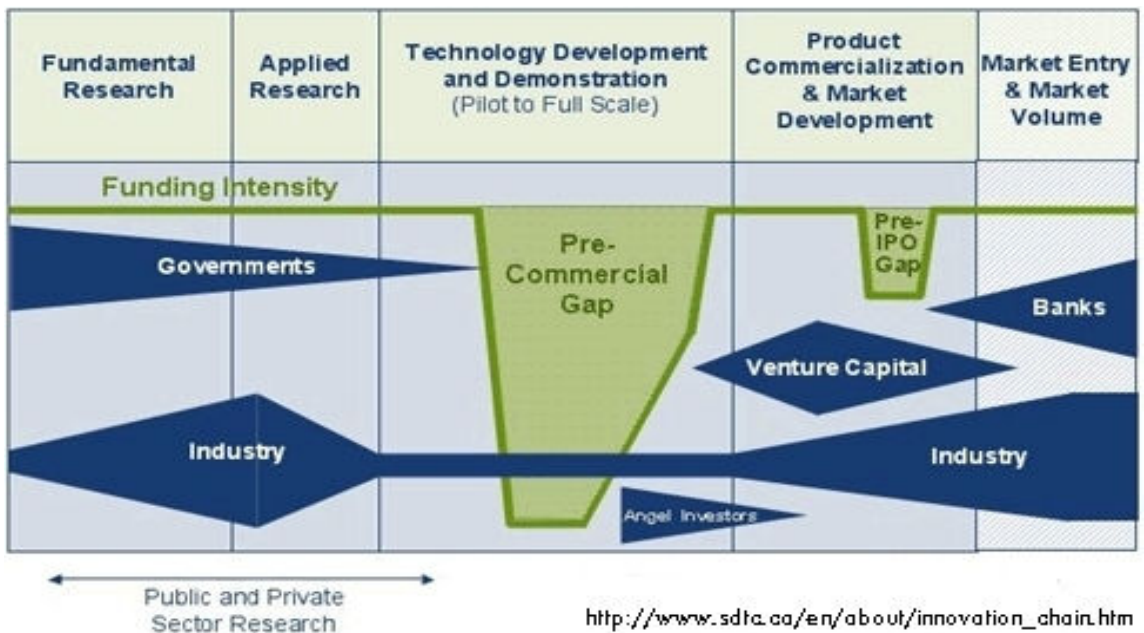


Figure 1. Stages of investment in firms illustrating the Pre-commercial “Valley of Death”

3. **Different kinds of capital are required for different stages of corporate development and for different kinds of companies in the knowledge intensive industries.** Key at all stages of development is the availability of angel investors. The ratio of funds for such firms today is: 70% of funds to start companies come from the entrepreneur’s own sources - family, friends, second mortgages, credit; 27% from angel investors; and 3% from venture capital investors. In any attempt to support early-stage growth, angels are important. But later, once the company is successful and begins to seek new markets, venture capital is needed. Once the company reaches a certain maturity and ventures to become a publicly traded company, offering shares to third parties through the stock exchange, then significant venture funding is needed to support an initial public offering. Providing support at only one stage leaves firms “stranded”; Alberta needs

more investment and investors for growing firms besides just the oil and gas sector it is to diversify the economy.

Early-stage capital is of little value without the requisite investment knowledge. One key to the success of Silicon Valley is that angels and early-stage capital fund managers were active in networking and connecting the companies they invested in with others. Mentors, coaches and guides for entrepreneurs used their connections to fast track links to suppliers, distributors and markets. Thus, investment is more than just cash – it is also about experience: capital without know-how will be misspent. Education of investors and entrepreneurs is therefore a key consideration in any strategic approach to resolve the Access to Capital problem. It becomes especially important when we look at emerging and complex markets for Alberta firms, like biotechnology, nanotechnology, biofuels, medical devices and geomatics. New sources of funds and “well” educated investors and entrepreneurs are essential ingredients for diversifying Alberta’s economy.

Finally, Alberta’s telecommunications and transportation infrastructure play an important role in the success of Alberta information dependent and dispersed firms. A contemporary information and communications infrastructure, efficient and effective transport and distribution for people and business, reliable and secure access to energy supplies and predictable energy costs are critical features in attracting, growing and retaining companies in Alberta. While Edmonton and Calgary may be better served than many rural communities or smaller cities, it is critical to develop rural Alberta if for no reason than to stem the de-population of rural Alberta. Great ideas can come from anyone, anywhere – corporations are encouraging local entrepreneurs to connect with them and propose new products or services. Alberta needs an integrated infrastructure that makes it possible for firms to quickly access knowledge, skills and support they need, when they need it. We have a long way to go.

Several Federal and Provincial programs support growing companies – they range from Federal and Provincial tax supports, systematic program investment systems such as Western Economic Diversification or pre-capitalized infrastructure supports such as the Alberta Research Council. But Alberta needs to unbundle, focus and better coordinate key components required to build successful firms in Alberta – more knowledgeable and skilled high tech angel and venture investors, more syndication of these investors and more investor ready companies able to leverage syndicated funds.

The working group emphasizes that moving from where we are to where we need to be is both urgent – now is the time to leverage Alberta’s prosperity – and difficult: success is a significant impediment to change. Leadership is warranted - our aim was to explore the options and recommend action.

THE CHALLENGE

Companies in Alberta struggle to secure financial capital at each stage of their development. Angel funding in Alberta appears “tight” and growth funding difficult to obtain. The difficulties in securing timely, adequate and effective access to capital inhibit company development and growth and can be a factor in a company’s failure. If Alberta is to be successful in developing a more diversified economy, access to capital issues need to be resolved so that firms can prosper and grow.

Further, Alberta’s ability to commercialize technologies, our “receptor capacity” – is impeded by the lack of access to capital. Funds needed to support prototyping, pre-commercial product development and market research, capacity development for full scale commercial operations and the enhancement of market reach are simply unavailable for many firms. In a typical year, Alberta attracts between 2-3% of the available venture capital in Canada, despite having 10% of the population and being the driving

economy of the nation. It is estimated that some two hundred huge tech start-ups which are seeking angel and early-stage capital fail to secure investment each year in Alberta.

The early-stage problem is not only the problem of a lack of funds. It is also the lack of knowledge on both sides of the market – on the part of those seeking funds and those providing them. Neither have enough knowledge of the other's needs, of the market opportunity or of the way in which investors look at management and how management looks at investors. Angel investors, for example, who invest in oil and gas services or real-estate, have a hard time understanding how some high tech markets operate and the time it takes to secure success.

Another aspect of this problem: Canada in general and Alberta in particular have a shortage of Tier One venture fund managers – managing partners with responsibility for the management of significant funds that secure significant returns for investors. This means that many of the funds that emerging firms access are managed outside of Alberta and, in a growing number of cases, outside of Canada.

STAGES OF INVESTMENT

As noted earlier, different types of investment apply for supporting the unique stages of corporate growth. A description of the investment source(s) for each stage of growth follows¹:

Seed or Concept stage financing. The venture is still in the idea formation stage and its product or service is not fully developed. The usually lone founder/inventor is given a small amount of capital to come up with a working prototype. Monies may also be spent on marketing research, patent application, incorporation, and legal structuring for investors. It's rare for a venture capital firm to fund this stage. In most cases, the money must come from the founder's own pocket, from the "3 Fs" - Family, Friends, and "Fools" - , and occasionally from, third-party angel investors.

Startup financing. The venture at this point has at least one principal working full time. The search is on for the other key management team members and work is being done on testing and finalizing the prototype for production or launch of "version 1.0" of a product or service. Early-stage venture capitalists --who are as rare-- may fund this stage. But more likely, it will be sophisticated angel investors.

First-stage financing. The venture has finally launched and achieved initial traction. Sales are trending upwards. A management team is in place along with employees. The funding from this stage is used to fuel sales, reach the positive revenue point, increase productivity, cut unit costs, as well as build the corporate infrastructure and distribution system. At this point the company is two to three years old.

Second-stage financing. Sales at this point are starting to snowball. The company is also rapidly accumulating accounts receivable and inventory. Capital from this stage is used for funding expansion in all its forms from meeting increasing marketing expenses to entering new markets to financing rapidly increasing accounts receivable. Venture capital firms specializing in later stage funding enter the picture at this point.

Third-stage financing. At this stage the future is so bright the founders "gotta wear shades" to borrow a phrase from the old pop tune. Everything looks good. Sales are climbing. Customers are happy. The

¹ Source: <http://www.antiventurecapital.com/financing%20stages.html>

second level of managers is in place. Money from this financing is used for increasing the productive capacity of the venture, marketing, working capital, and product improvement or expansion.

Mezzanine or Bridge financing. At this point the company is a proven winner and investment bankers have agreed to take it public within 6 months. Mezzanine or bridge financing is a short term form of financing used to prepare a company for its IPO. This includes cleaning up the balance sheet to remove debt that may have accumulated, buy out early investors and founders deemed not strong enough to run a public company, and pay for various other costs for going public. The funding may come from a venture capital firm or bridge financing specialist. They are usually paid back from the proceeds of the initial public offering (IPO).

Initial Public Offering (IPO). The company finally achieves liquidity by being allowed to have its stock bought and sold by the public. Founders sell off stock and often re-engage another startup.

Different accounts of venture capital use slightly different terms, confusing the field. The terms used in this report are explained next.

VENTURE FINANCING FACTS – ALBERTA AND CANADA

So as to understand venture financing in more depth, the following is a summary of the facts as they pertain to Alberta’s capital market in 2007.

Global venture capital trends. Capital flows across the world and displays a variety of different patterns, depending on both the source of funds, the destination in terms of jurisdiction and industry sector in which an investment is to be placed. However, if we look systematically at global venture capital trends we can see some clear patterns.

The following chart illustrates some of these trends:

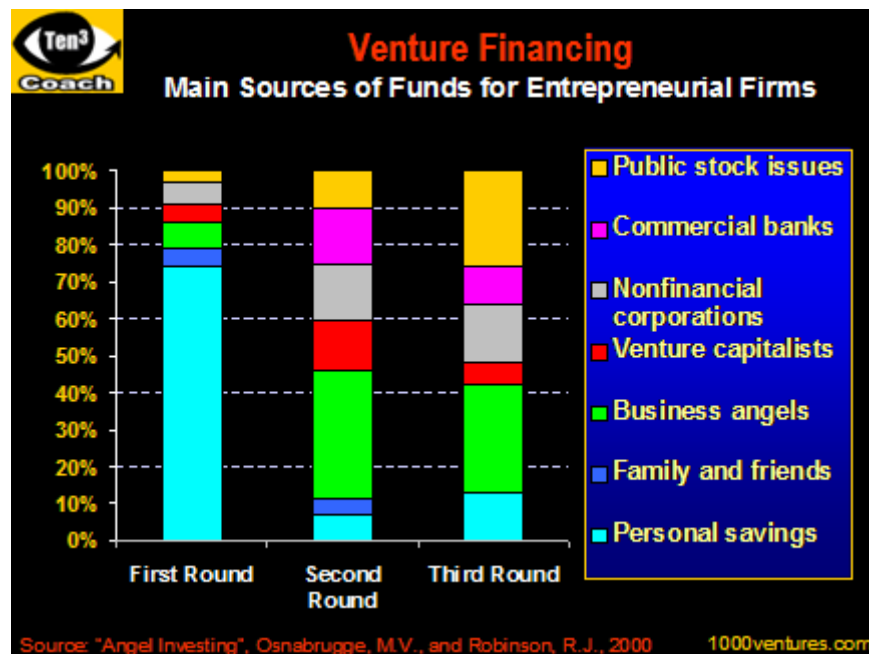


Figure 2: Financing for Firms (Global View)

Most second stage financing (early-stage and often pre-profit) comes from angel investors - who also appear to participate at the third round of expansion and growth. Note most venture capital investments are made at late stage or buy-out points in the life cycle of a firm.

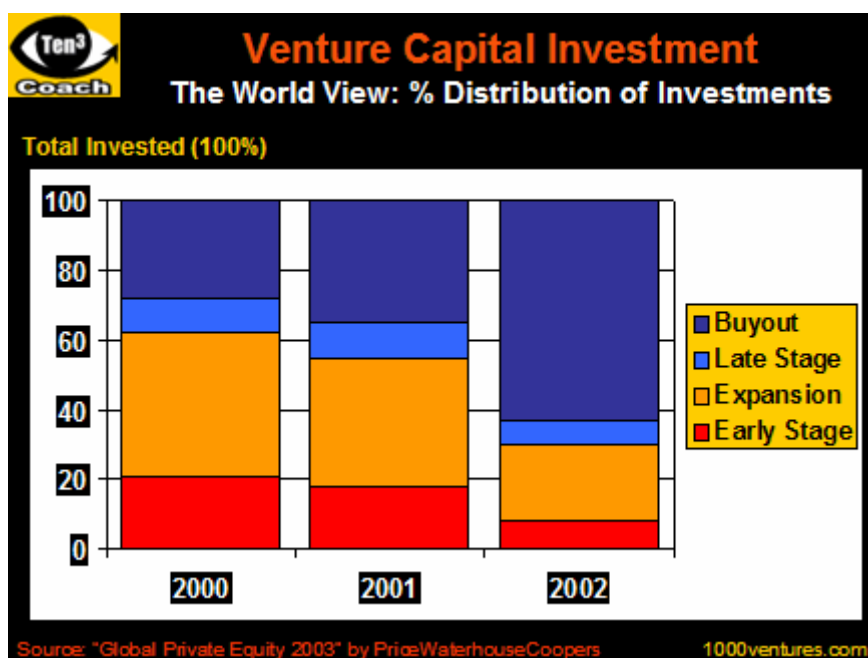


Figure 3: Stages of Deal Flow

Angel investors and investing. Angel capital bridges the gap between an entrepreneur's own sources of funding: family, friends, and third parties. The total investment of an angel in a single venture is usually under \$1.5 million, often placed in increments of \$150,000 - \$200,000.

1. Investors are usually local (angel investors rarely invest outside their own geographic region of influence).
2. Investors usually invest in sectors in which they have some knowledge or some direct connections – they rarely invest in activities completely outside of their understanding.
3. Angels are usually active in the companies in which they invest, providing coaching, guiding and mentoring as well as finance.

Angel investment is thus often much more critical to early-stage companies than venture capital – it is their financial lifeblood to get them venture capital investor ready. From several systematic studies of angel investment it is clear that, for knowledge intensive industries, angels turn out to be important to the development of companies. Here are some of the facts²:

1. Angels fund 30-40 times as many enterprises as the formal venture capital industry does – angels invest 5-6 times the funds of the venture capital firms.
2. Almost all major brand names – Ford, Apple, Amazon – were all angel funded in their early days.

² See Osnabrugge, M.V. and Robinson, R.J. *Angel Investing*. San Francisco: Jossey-Bass, 2000.

3. In the US, angels fund 60% of the technology companies in the US. Silicon Valley development relied heavily on angel investors and continues to do so, with many of the successful players in the dot.com boom now acting as angels. For example, the Clean Technology sector now robust in Silicon Valley was bankrolled by former technology executives making angel investments.
4. Angel investors behave differently from venture capital investors – they need different encouragement and different supports.
5. The percentage of all companies seeking angel financing that actually receive such funding is close to 0.5%-1% of requesters (but this is still higher than the 0.2%-0.25% of applicants who receive funding from venture capitalists). There is strong rigour applied to the angel funding decision³.

Any strategy that seeks to address issues and challenges for companies with respect to Access to Capital must consider angel financing as the starting point for most firms. Alberta faces different hurdles than the country overall.

Canadian venture financing. Starting late – now addressing management and capital gaps.

1. **The key risk investment decisions for venture capital firms are based on balancing some key factors related to the proposal in front of them. These factors are: 70% - the management team, 20% - the market assessment of the technology category and 10% - the specific technology to be deployed.** Studies of Canadian venture capital issues agree that the talent gaps in the management of Canadian companies seeking venture capital provide a significant reason for the poor quality of returns and the low level of venture investment. While it can be argued that the absence of adequate funding is a disincentive for managers to develop businesses in Canada, highly qualified management and a focused, rigorous market driven business plans are pre-requisites for angel, venture and mezzanine funding. It's the absence of these components that leads to low levels of funding from global sources.
2. **In a typical year, venture investment in Canada totals ~\$1.8 billion**, with the typical deal being around \$4.5m or ~50% of the deal size of equivalent US investments.
3. **Available venture capital in Canada is approximately one-third of that in the US.**
4. **The venture capital industry in Canada is very young** – only 8% of available venture funds were formed before 1995 as compared to 46% in the US and 32% in the EU. This explains some of the key differences between Canada and the US in terms of firm performance.
5. **46% of deals done in Canada are early-stage, start-up and first year investments, 27% are late stage, close to an initial public offering or exit.**
6. **The best performing Funds worldwide enter market sectors early, make many small bets, concentrate on winners, are company builders and move companies through several growth stages and engineer large exits quickly. Investors stay with the firms that win and support them.** This is not yet the pattern in Canada. In Canada, venture capital investors concentrate on early-stages, invest less frequently - and in small amounts, in growing companies, have smaller number of exits with small exit values, are slow to exit non-performing companies and are less demanding of performance than their US and EU counterparts.
7. **Foreign investors play a significant role in Canada's venture capital industry.** 25% of the funds invested in Canadian firms come from foreign sources. The average value of an exit is 2.5

³ Source: Centre for Venture Research, 2004 data.

times higher in Canada when foreign investors are involved versus when they are not. This is why Canadian firms travel the world, especially the US and Europe, in search of venture funds.

8. **Canadian scorecards for investments have longer time lines, lower revenue targets, fewer growth targets and fewer back-up plans than similar venture investment scorecards for US and EU venture capital investors.**
9. **Canada has a large number of small venture funds that weaken the quality of available fund management who are generally more likely to manage large funds.** In other jurisdictions, there are a range of venture firms some of which have substantial funds to invest – there are no such firms operating in Canada.
10. **Canadian Pension Funds face considerable pressure to reduce risk** – driven by demographics and the high level of reliance of many Canadian's on pension funds for their retirement income. Such funds are more likely to invest in large firms (e.g. the Ontario Teachers Pension Fund's purchase of Bell) or overseas (e.g. the Ontario Teachers Pension Fund invested more in Brazilian firms than in Canadian early-stage ventures).
11. **A particular issue is angel investment – pre-venture capital, very early-stage funding.** Studies of Canadian venture capital recognize that angel investing in Canada is less available - and only now developing, than in the US and where it has been viewed as of critical importance.

Summary. *A large number of weak company management teams present poor business propositions which leads to a scatter gun approach by venture capital firms. When management is found, there are too few deals per venture capital firm to invest in, with too little cash in each deal, especially for growing companies. Venture capital firms in Canada “stand too far back” and are not aggressive in moving companies through a rigorous, market driven performance program aimed at growing the company. This results in low pay off from many deals. This in turns does not attract investors.*

Alberta venture financing. Too few deals or too little capital?

1. **Alberta secures around 2 - 3% of the venture capital investment made in Canada outside oil and gas.** In 2006, this amounted to less than \$40 million invested outside of oil and gas. This despite the fact that Alberta has 10% of Canada's population and accounts for 17% of Canada's GDP. While this sum is meager, the investments made in Alberta firms are generally more successful than investments made in companies in other Provinces or Territories in Canada.
2. **Investments in oil and gas are critical to Alberta's role in the energy sector** within North America. They are substantial - 67% of all energy venture investments (excluding buyouts and mezzanine) in Canada are made in Alberta-based firms. The primary reason – skilled management and experience, coupled with a “cluster” of support related infrastructure attracts capital.
3. **In 2005, \$125.5 million was invested in non-oil and gas venture activity (4% of all Canadian funds) and an additional \$119 million was invested in energy related investments.** This amount declined sharply in 2006.
4. **In 2005, 10 of the companies previously invested in were acquired through mergers and acquisition, 6 went public and 14 secured additional growth investment** – a high level of success for venture capital investors in Alberta when compared with the rest of Canada. However, this represents a pattern. As Alberta firms achieve success (especially in ICT and biotechnology) they attract the interest of other firms seeking mergers and acquisitions. Given the absence of developmental capital, many firms sell early in their development since this is a way for early-stage investors to secure their return. The result is that control of company development moves to the new owners, many of whom are offshore.

5. **The ratio of private: public spending on R&D in Alberta is low - 0.78:1 in 2004 with the ideal being 3:1.** This results in a low number of product opportunities flowing from the public R&D network in the Province. This in turn leads to fewer investments being made than in those economies where the private sector has a stronger commitment to R&D.
6. **Alberta Universities create many “spin off” companies (2.7 companies per \$100 million spent on R&D), especially when compared to US universities (1.6 per \$100 million of R&D)** – but the Alberta companies suffer a higher failure rate reflecting the lack of community and corporate receptor capacity. While spin off’s have a reasonable success rate in Canada (around 75% survive the first three years), they require effective management to lead them and build them into fast growth companies, known as “gazelles.”

Summary: *Strong management, effective cluster development and appropriate support from Governments have led to a strong oil and gas economy in Alberta which attracts substantial capital. Similar strengths appear to exist in modest amounts in other sectors, thereby affecting available capital. Where capital is invested in effective management in Alberta, venture capital investment appears strong and successful. The problem appears to be that there are few opportunities for such investments.*

OPTIONS FOR CHANGE – INCREASING ACCESS TO CAPITAL

The working group established by the Alberta Council of Technologies reviewed the available literature, practices in other jurisdictions and examined options for change. A description of these options follows, supported by reference materials as appropriate. The aim of this section is to provide an understanding of the actions taken by others to counter the lack of venture capital from traditional sources. Some of the options are more applicable to Alberta than others, depending on the nature of the economy and their fit with the forces and sources of change.

A key task for the working group was to identify actions that the various “players” in Alberta’s innovation system could take for increasing Access to Capital for firms in knowledge intensive industries. The following is a list of options for increasing the amount, accessibility and success of capital for early-stage and developing firms.

1. **Introducing Flow through Shares for Investors in All or Selected Sectors.** Flow through shares exist (until March 2008) for the mining, oil and gas sectors. The intention of such shares is to encourage high risk investment in exploration by providing tax incentives for investors. A \$1 invested in an exploration activity cost the investor \$0.41 cents, thus reducing the risk to the investor from a loss –given that many explorations producing zero return. Companies benefit – they have risk capital – and investors benefit. The public benefit is a growing oil, gas and mining sector which creates jobs, pays royalties and additional tax revenue.

The downside is that flow through shares distort the market and lower the value of companies. Investors invest to secure the tax benefit and can secure a return by selling their shares at less than the market would normally pay – a share sold at \$0.75 cents is a profit of 82% to the investor, but lowers the value of the company by 25%.

Federal flow through share arrangements are due to end in March 2008, though the applicable industries are lobbying for an extension.

An option is to apply the flow through to particular knowledge intensive, technology-specific sectors or to associated early-stage companies for the first few years of their operation. While very difficult to administer, it would help “attract” angel investors and reduce their risk. Such

arrangements require agreements between the Federal and Provincial government, since they relate to tax matters applicable to both jurisdictions.

2. **Instituting Sidecar Funds for Angel Investors in Alberta Companies.** An angel investment is usually a combination of money (\$5,000 - \$1,500,000) and expertise into the company in exchange for equity or an agreed repayment or some other consideration. If such investments could attract additional government funds - so called "side car" funds, then the amount needed from an angel would be less and the company secures the needed capital to move to its next stage of development.

The way this works is simple. An angel network (e.g., Keiretsu Forum, Alberta California Venture Channel, Deal Generator, and Venture Alberta) is formally established with a systematic process for qualifying both investors and "seekers". Once established, the Network is registered with the appropriate Government. For every investment made, the government offers a "match" of some kind. This can vary from \$1 of government funds for every \$3 of private investment to 1:1 matching. Such matching is established in the United Kingdom, Belgium, France, Austria and some states in the United States.

A key feature of such a proposal is that the final decision as to who gets funds is with the investor, not with the government. The government invests in the network to support innovation – as a public asset - and does not scrutinize the investment decisions, but holds the Network accountable for best practice decision making.

"Syndication" is an important feature of angel networks. A qualified seeker can present their proposition in Edmonton, Calgary, Red Deer or wherever the investor network meets and an investor may make investments in a business presented at another location. Syndication, investor and business education are normally prerequisites for government involvement.

Sidecar funds normally involve: (a) a requirement of investors to engage in educational activities to better inform them of how to make investments, what role they should play once an investment has been made and to help provide a better understanding of emerging markets; (b) that the recipient of sidecar funds be part of a syndicated fund as opposed to a stand-alone fund; and (c) that entrepreneurs receiving sidecar funds also participate in an educational program.

In Alberta, such a fund has significant appeal – increasing the size and number of angel investments, improving the quality of these investments and helping to attract and develop new investors into the angel investment community.

3. **Improving Tax Treatment for Investors.** Tax treatment plays an important role in the decision of an angel investor to place funds in a non-listed company. In particular, investors are interested in the tax treatment for the investment itself and the tax consequence of their sale of this investment or how the tax system treats non-listed investment losses.

The current situation in Canada is this: Revenue Canada recognizes a tax-free, lifetime capital gain of up to \$750,000 when selling shares of a qualifying Canadian owned private business (this increased by \$250,000 in March 2007). Additionally, in the situation where there are losses, they are favourably treated as being deductible from total income (not just capital gains) as an allowable business investment loss.

Addition capital gains incentives may encourage growth in angel investment. It is the position of most groups representing investors that the most significant act the Government of Canada could

take to encourage more access to capital is to change the capital gains allowance to \$1 million or more.

Three additional features of the Federal tax regime also require attention. These are: (a) managing loss provisions; (b) tax treatment of stock options, and (c) capital gains rollover. Let us briefly review some options.

(A) **MANAGING LOSSES.** Canada has a rollover of losses for a 7-year period. The US changed their 15-year period in 2003 to 20 years. Canada has not revised its rules since 1984. An option for change!

(B) **STOCK OPTIONS.** There are two principal issues relating to stock options:

- Significant complexity arising from the layering over of different tax regimes - Provincial and Federal
- Problems with employees triggering employment income on the exercise of stock options and then, as a result of market declines, realizing a large capital loss which can only be claimed against capital gains.

Stock options have been a significant component of high tech employee compensation packages over much of the last 15 years. Stock options provide employer corporations with the ability to offer employees additional compensation without negatively impacting corporate cash flow. The economic upside of options was also very attractive to potential employees when the equity markets were strong and the options served as a powerful recruiting tool for high tech employers.

Federal tax incentives for employee stock options are available as:

- A deferral of the taxation of the employment benefit until the sale of the shares; and
- A special 50% tax deduction to bring the amount of income subject to tax to the equivalent of a capital gain.

Unfortunately, there are two separate ways to get each of these incentives. A deferral is available for most options issued by CCPCs. As a result of changes introduced in the 2000 Federal Budget, employees with certain public company options can also elect a deferral within specified dollar limits. The special 50% deduction can be achieved on certain CCPC options where the shares are held for a further 2 years regardless of how the strike price on the options was set. A separate rule provides the 50% deduction for options regardless of CCPC status so long as the strike price is not less than the fair market value of the shares.

Employees may hold identical shares that have totally different tax attributes as they were acquired under the following circumstances:

- With CCPC options -so the stock option benefit is deferred until the time of sale
- With options granted when the employer was a private corporation not eligible for CCPC status - no deferral
- With options granted by a public corporation on which the employee elected to defer the stock option benefit until the time of sale
- With options granted by a public corporation on which the employee has been taxed on the stock option benefit
- Purchased by subscription while the company was a private corporation
- Purchased in the open market while the company was public.

As there are these various sources of shares, a host of detailed tax rules relating to the pooling of various sources, ordering of option exercises, ordering of share dispositions, cost base

calculations, calculating the gains on quick flips, etc. are provided in the Income Tax Act. Since the introduction of the public company rules and a number of related changes in the 2000 Budget, the rules have become so complicated that an employer has great difficulty giving employees anything other than the most basic tax advice on the consequences of exercising their options and selling the shares.

The complexities relate to the layering on of the public company deferral rules over the general rules and the special CCPC rules. It may be appropriate to consider a re-write of the rules.

Why not have a set of rules for so-called “good” options and one for “not so good options”? In principal, should the employees of both public company and CCPCs be entitled to a deferral of the taxation of their option benefit while non-CCPC private corporation employees are not?

The US has a system that recognizes “good options” and “not so good” options. The “good” options - referred to as Incentive Stock Options or “ISOs” qualify for a deferral and capital gains treatment. The “not so good” options - referred to as Non-qualifying Stock Options, have ordinary employment income treatment, do not qualify for a deferral and are taxed at the time of the acquisition of the shares. While there are a number of requirements for an option to be an ISO, many of them deal with the attributes of the plan, but there are also holding period requirements. Conceptually, the key determinant in the classification is whether or not the strike price is equal to or greater than the fair market value of the shares at the time that the option is granted. If the employee is not getting a bargain, the options will be eligible for ISO treatment if the other requirements are met.

A separate but significant and longstanding problem that has caused tremendous hardship for some employees who have exercised stock options also needs to be addressed. It centres on the characterization of the stock option benefit (the difference between the strike price paid for the share and the fair market value of the share at the time of the acquisition of the share) as “employment income” - albeit only 50% subject to tax in most cases, with the subsequent increase or decrease in the value of the share between the time of acquisition to the time of sale as a capital gain or capital loss, as the case may be. If the share price increases during the holding period, the economic gain is taxed as a capital gain and that is satisfactory. If the share price declines during the holding period, however, the individual realizes a capital loss. One-half of the capital loss can be deducted against the taxable half of capital gains realized in the year or carried back to offset capital gains realized in the previous three years. If the employee has no capital gains to offset, the capital loss must be carried forward. The economic loss since exercise becomes a trapped capital loss.

(C) CAPITAL GAINS ROLLOVER. The capital gains rollover was introduced in the 2000 Federal Budget when the equity markets were still strong. It allowed individuals to defer recognition of some or all of their capital gains arising on the disposition of an eligible small business investment when the proceeds are reinvested in other eligible small business. The deferral was only available with respect to the first \$2 million of the individual's original investment. There were no limits on the total amount that could be reinvested, but no more than \$2 million reinvested in shares of any particular company or related group qualified for the deferral. In addition, a very short timeframe was provided for reinvestment.

The 2003 Federal Budget eliminated the \$2 million limit on original and reinvested amounts for purposes of the deferral. The Budget also extend end the period in which a reinvestment qualifying for the deferral may be made.

- 4. Mandate the Heritage Fund Portfolio to Invest in Early-stage Start Ups.** The fund is intended to generate revenue through its investment portfolio which then can be used to support a variety of activities in Alberta, including R&D. In some other jurisdictions, a portion of the investment is

required to be reinvested in early-stage start ups within the jurisdiction – The Heritage Fund could be asked to invest a given % (say 1%-5%) through an established mechanism (e.g. Alberta Deal Generator) so as to secure the growth of Alberta companies, increase access to capital and diversify the economy.

Such a requirement could be met in others ways – e.g. by preferred procurement (see below), by increasing investment from this source (or general revenues) in commercialization related activities or by requiring a portion of taxation revenues to be dedicated to economic development. The idea here is that we increase the pool of available capital to be invested in Alberta's SME's.

5. **Revising SR&ED Tax Credit Regime.** SR&ED is currently a +\$3.2 billion Federal program that supports the R&D efforts of companies and encourages commercialization of innovation. Currently, private companies receive a 35% tax credit on legitimate and approved R&D expenditures while public companies receive 20%. This acts as a disincentive for IPO's for research intensive companies. Equalizing these credits at the 35% level would level the playing field and increase the value of the assets available to public companies. This is only effective when the company has a positive net revenue position and owes Federal taxes – the credit is not a payment, it is a tax reduction (no taxes, no reduction).

The key issue underlying SR&ED tax credits is that the company has to be a CCPC – it cannot be controlled by any combination of public and foreign ownership. This limits who is eligible and disregards the cross-border and global nature of many knowledge intensive firms. This too needs to be reviewed.

For Alberta companies, there is a significant disadvantage. Most Canadian Provinces provide a provincial "match" to the Federal SR&ED fund. Alberta does not. A significant change which would "level the playing field" for Alberta companies would be for Alberta to match the Federal SR&ED tax credits.

6. **Engaging Municipal Government.** In Canada, municipal governments have few instruments available to them to leverage economic development. In the United States, local governments have much greater powers and can support growth of the technology sector with tools that both enable land use zoning and may be linked with tax incentives. The designation of "enterprise" or "empowerment" zones has worked effectively in the United States through both federal and state initiatives, usually focusing on economically depressed areas. These zones are intended to stimulate business development and job growth as well as to improve the community in other ways. They are underpinned by employment wage tax credits to companies doing business in the zone, new-hire and job-creation tax credits, job training tax credits as well as modest corporate tax holidays. Two examples include the "Michigan Smartzone," which can be reviewed at www.medc.michigan.org/smartzones and the Texas Enterprise Zone Program, which can be reviewed through www.txed.state.tx.us.

Municipal governments working with the State can access State funds to support local enterprise.

Looking specifically at Texas, the State and its municipalities collaborate in economic development in a variety of ways. These include:

- **Enterprise Zone** – tax credits for firms based on the number of employees up to certain limits for community nominated projects, based on the level of capital invested by a company

- **Emerging Technologies Fund** – a \$200 million fund allocated to regional incubators, support for market research for emerging firms and investment in research to ensure “superiority” of Texan firms in competitive markets
- **Enterprise Fund** – a \$295 million allocation for nimble responses to emerging opportunities. The fund can be used for a variety of economic development projects, including infrastructure development, community development, job training programs and business incentives. Its aim is to attract and retain companies in targeted areas of the economy. It is State resourced and locally administered.

Some municipalities in the US have adopted a municipal economic development sales tax. Texas makes this possible – see http://www.cpa.state.tx.us/taxinfo/taxpubs/tx96_302.html as does Nebraska - see <http://assist.neded.org/LB840Guide.pdf> The underlying idea of such taxes is simple: the voters of a municipality should have the right to spend their own tax dollars in the manner they find best suits their own local needs. Within certain broad limits, local municipalities are given a great deal of latitude in defining local economic development needs and in spending their own tax dollars in meeting those needs. In Nebraska, the process requires process involves the formulation of the local economic development program plan that is perhaps the most important part of the process. The plan forms the foundation for the collection and expenditure of local tax revenues for economic development and, if the voters approve the plan, its provisions become the basis through which the municipality’s economic development program operates. Careful, thoughtful development of the plan is of paramount importance to the success of the economic development program. Understandably, voters are more likely to approve the expenditure of their tax dollars if they believe the plan is well thought out and workable. Once voters approve the plan, it defines the limits of the economic development program.

Sales taxes for municipalities are common in the US. St Louis, MO, for example, documents its sales taxes in this way:

“In addition to the one percent local retail sales tax that is collected countywide, there are five local option sales taxes that individual cities may levy. (1) The 1993 revenue reform legislation allows cities to levy an additional one quarter percent tax. Twelve and one-half (12.5) percent of that additional money is shared with the members of the one cent pool. (2) Cities may levy an additional 0.5 percent for capital improvements projects. For this tax, cities elect to participate in a revenue-sharing pool or retain 85 percent of revenue generated by this tax. (3) Another 0.5 percent sales tax may be levied for park and storm water projects. (4) A .25 percent fire protection service sales tax for cities with fire protection responsibilities. (5) Up to 0.5% sales tax for economic development purposes. If all of the above taxes are levied by a given city, the total retail sales tax rate is 8.075 percent. In addition, Transportation Development Districts can levy up to 1% in sales tax, and Community Improvement Districts can levy up to 1% in sales tax.”

While Alberta appear to be reluctant to engage in sales taxes (despite the threat to our oil revenues, which are scheduled to decline by some 60% over the next three years), focused taxes for economic development are not uncommon. There are already sales taxes (called a tourism levy) in Alberta to support the tourism industry. Every hotel room in the Province carries a 4% levy which is intended to support tourism attraction. Hotels in the national parks also charge a 2% tourism improvement fee to support the tourist infrastructure in the national parks. The airport authorities also tax passengers through an airport improvement fee included in the price of tickets – currently \$20.00. Every ticket purchased includes this fee. This is another industry support tax. There are also taxes that support the recycling industry - tires, beverage bottles and cans carry a levy to encourage recycling, which then supports eco-friendly firms and employment. These are

all economic development taxes collected locally and administered in support of specific areas of investment.

Municipal bonds are another option. Municipal bonds are debt obligations issued by government entities. When an individual buys a municipal bond, they are loaning money to the issuer in exchange for a set number of interest payments over a predetermined period. At the end of that period, the bond reaches its [maturity date](#), and the full amount of the original investment is returned to the lender. Municipal bonds come in two varieties: [general obligation bonds](#) and [revenue bonds](#). General obligation bonds, issued to raise immediate capital to cover expenses, are supported by the taxing power of the issuer. Revenue bonds, which are issued to fund infrastructure projects or to support economic development, are supported by the income generated by those projects. Both types of bonds are usually tax exempt and particularly attractive to risk-averse investors due to the high likelihood that the issuers will repay their debts. Such bonds may be valuable instruments when municipalities are looking at biofuels, clean technology for energy generation or ICT investments. In Texas, municipalities can issue development bonds to support emerging industries through non profit Industrial Development Corporations.

Municipalities can also be directly involved in co-operative partnerships. Partnering with farmers, local firms, interested citizens and others to form Limited Liability Companies (LLC's) or New Enterprise Co-Operatives which are formed to manufacture a product (e.g. energy from waste to supply the municipality) where the co-op members are all associated with the supply chain for this product. The joint venture of municipality and local interests created the wild game packing plant near Rimbey as an LLC, which also included some of the European customers for their products. In the US, LLC's are engaged in ethanol production, energy production and the production of other value added goods and services. The municipality is both an investor and procurer of the services.

It is important to note that Alberta municipalities are actively pursuing new taxation powers, but that they see these as a way of supporting ongoing infrastructure challenges and developmental activities, but have not said how these new sources of revenue (should they be agreed to) will support economic development.

7. **Leverage Government Procurement.** Procurement practices can stimulate the growth of small and medium enterprises at all levels of government.

The US Federal Government has a strong program of support for small and medium enterprises. Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) are programs in which federal agencies with large research and development (R&D) budgets set aside a small fraction of their funding for competitions among small businesses only. Small businesses that win awards in these programs keep the rights to any technology developed and are encouraged to commercialize the technology. Each year, the federal agencies that participate in SBIR and STTR set aside 2.5% and 0.3%, respectively, of their extramural R&D budgets. For the US Department of Energy, for example, in FY 2005, these set-asides correspond to \$102 million and \$12 million, respectively.

SBIR and STTR have three distinct phases. Phase I explores the feasibility of innovative concepts with awards up to \$100,000 for about 9 months. Only Phase I award winners may compete for Phase II, the principal R&D effort, with awards up to \$750,000 over a two-year

period. There is also a Phase III, in which non-Federal capital is used by the small business to pursue commercial applications of the R&D. Also under Phase III, Federal agencies may award non-SBIR/STTR-funded, follow-on grants or contracts for products or processes that meet the mission needs of those agencies, or for further R&D. Proposal-to-award ratios are about 5-to-1 for Phase I and 2-to-1 for Phase II.

Other forms of procurement also prefer emerging technologies and SME's. For example:

- Procurement preferences for green energy and biofuels from municipal and State/Provincial government
- Procurement from local/Provincial suppliers versus other suppliers from other jurisdictions
- Preferment for procurement for biobased products and services (USDA).

One significant source of meaningful cash for firms is revenue from customers. Preferred procurement provides support for this stream of income.

8. **Recruiting Highly Qualified People in Companies.** Some jurisdictions, such as Quebec, waive all Provincial income taxes for key recruits from overseas for 60-months, a 5-year period. This provides some incentives for an individual to locate in the jurisdiction, making local firms attractive. It also encourages and enables firms to attract and retain the talent needed to move them through their various stages of development. It is relevant to the access to capital issue in a direct way: most investment decisions are based on people – who are on the team. If the team has some of the best talent in the world, it is more likely to attract capital.

Alberta Ingenuity has a fund to support companies who hire highly qualified researchers to help with their R&D activities. Known as Industry Associates, the fund makes a salary and grant contribution to firms seeking to hire qualified researchers to take product ideas to the next stage, bringing ideas nearer to commercialization. Worth \$110,000 over two years, these awards provide strong support to R&D in local firms. There are also project based funds available for “quick” projects requiring R&D – four to eight months funded at \$7,500 for four months.

9. **Promote Micro Financing.** Sometimes the funds required to get an opportunity to move from an idea to market are very small – less than \$10,000. The innovator who does not have access to such sums is inhibited from getting to a point where angels can help. This is where micro-financing – small scale investment repayable against earnings at some future point – can be helpful.

Women have become the focus of many micro-credit institutions and agencies worldwide. The reasoning behind this is the observation that loans to women tend to more often benefit the whole family than loans to men do. It has also been observed that giving women the control and the responsibility of small loans raises their socio-economic status, which is seen as a positive change to many of the current relationships of gender and class.

One example here may help. Western Economic Development (WD) working with VanCity and Coast Capital Savings Credit Unions has a program of micro loans for entrepreneurs with disabilities.

See http://www.cbsc.org/servlet/ContentServer?pagename=CBSC_ON%2Fdisplay&lang=en&cid=1111577119231&c=GuideFactSheet).

This same program is also available throughout rural Alberta through the Community Futures Development Corporation. In Edmonton, it is available through DECSA - Distinctive Employment Counseling Services of Alberta and in Calgary with MCC Employment Development http://www.mcca-ed.org/participant_channel/getaloan.html.

Alberta Women's Enterprise serves women entrepreneurs throughout Alberta with business coaching and financing up to \$100,000.00. Servus Credit Union also has a micro-loan program that is also guaranteed through Western Economic Diversification – see http://www.servuscu.ca/nav_business/lending/business+micro+loans.htm

In the past few years, savings-led microfinance has gained recognition as an effective way to bring very poor families low-cost financial services. For example, in India the [National Bank for Agriculture and Rural Development \(NABARD\)](#) finances more than 500 banks that on-lend funds to [self-help groups \(SHGs\)](#). SHGs comprise twenty or fewer members, of whom the majority is women from the poorest [castes](#) and tribes. Members save small amounts of money, as little as a few rupees a month in a group fund. Members may borrow from the group fund for a variety of purposes ranging from household emergencies to school fees. As SHGs prove capable of managing their funds well, they may borrow from a local bank to invest in small business or farm activities. Banks typically lend up to four rupees for every rupee in the group fund. Groups pay a reasonable annual rate of interest. Nearly 1.4 million SHGs comprising approximately 20 million women now borrow from banks that make the Indian SHG-Bank Linkage model the largest microfinance program in the world. Similar programs are evolving in Africa and Southeast Asia with the assistance of organizations like Opportunity International, Catholic Relief Services, [CARE](#), [APMAS](#) and [Oxfam](#). Also helps in the development of an economy by giving everyday people the chance to establish a sustainable means of income. Eventual increases in disposable income will lead to economic development and growth. We highlight these examples to make a simple point: there are working models of community based micro financing that work elsewhere that could be adopted for rural Alberta or communities within Cities or aboriginal communities.

10. Bank and Credit Union Training and Orientation.

Credit Unions. Canada's credit unions are very active in supporting rural enterprise. In Ontario alone, the Credit Unions have invested \$1.4 billion in small and medium enterprises over the last decade, reflecting their commitment to social enterprise. Using a framework known as "enterprise facilitation", credit unions are managing a set of relationships with SME's aimed at sustaining and growing rural communities. This approach is a client-centered, management coaching method available to self-motivated individuals with a business idea. It is low-cost and locally managed, which complements infrastructure development and allows for better use of business-related resources available in the community.

Developed by the Sirolli Institute, Enterprise Facilitation has been employed in rural and urban regions throughout the U.S. and Australia with great success. The model is currently being employed in the rural U.S. to address critical rural economic development and community development issues, financed through a variety of different arrangements. The process used by Credit Unions using this method involves:

- Providing Sirolli Institute training in the Enterprise Facilitation process for credit union staff and other key partners

- Hiring (on contract) a trained enterprise facilitator to be a shared resource person among the partnering regional credit unions. The facilitator's role is to implement the Enterprise Facilitation process to increase the success of rural entrepreneurs in the region
- The formation of a volunteer local board of management for the project that brings together key civic and business leaders, and representatives from other business service organizations, to provide business networking support for entrepreneurs through the contracted enterprise facilitator
- The development and implementation of the evaluation process to measure the success of the pilot process and assess the potential to replicate the model.

Pilot projects have been running in some Ontario credit unions for some time. The objectives set by the Ontario credit unions for this project include:

- Creation of at least 80 new jobs
- Facilitation of up to 20 business expansions
- Retention of businesses and additional jobs saved
- Business networking support for at least 600 entrepreneurs and small businesses;
- Training for up to 66 people (16 in depth, including credit union lenders and the EF, and up to 50 local civic leaders) in the Sirolli model
- Sustainability plan pending success of the project, leading to ongoing EF services in south-western Ontario
- Enhanced network of support for entrepreneurs in south-western Ontario, including local credit unions
- Enhanced capacity of rural credit unions to address needs of rural entrepreneurs.

Similar programs could be developed in Alberta, using the experience of Ontario to assist. Such programs need not be restricted to credit unions; they could be a part of several different educational "solutions" to the issues raised here.

Commercial Banks. Commercial banks including for this report's purpose, agencies such as Business Development Bank of Canada and Alberta Treasury Branches, are relatively recent entrants to the technology sector, at least to the extent that they have developed programs specifically directed to knowledge-based ventures. Some banks have become more active than others in technology although there are significant variations from sector to sector, and amongst specific geographic locations. Critical barriers have been the need for traditional bankers to develop empathy for the often unique cultures of technology entrepreneurs and their companies, and the transition in evolving from asset based lending, to the use of more intangible security.

A significant problem, raised by several SMEs, is that many of the technology focused programs of Banks are not easily accessible in rural areas.

Two other barriers are faced by the banks, one internal, the other involves infrastructure. Most banks acknowledge that their internal organization structures and performance measurement schemes can inhibit the migration of technology company customers from conventional account managers to those who have developed specific familiarity with the sector. We heard from at least one senior banker that more of their technology based portfolio actually has emanated from firms not previously customers of the Bank.

The second barrier is that the programs of most banks still require an initial revenue stream; thus they are not yet able to address most early-stage financing requirements, and many companies at these stages will not reach the point where Banks can assist them, as lenders.

Most major Banks have also moved into the equity field in recent years, through their ownership of large investment dealer firms, and the establishment in in-house capital corporations. However, these organizations do not focus specifically on technology companies, and for the most part, as with traditional Venture Capital companies, have difficulty addressing the needs of ventures with financing needs under \$1 million.

11. **Syndicated Angel Funds.** The vibrancy and quality of the venture capital market and the availability of angel funds are closely related.

The Ottawa Angel Alliance has looked systematically at the relationship between angels and venture capital investment in a given region. They found a direct correspondence to the quality of venture capital investment in a region to that of an active angel investment community. That is, if there is weak venture capital investment, then you probably have poor angel investment in the region. The corollary is that if you want to have better venture capital, it is essential that angels are well supported.

There is also a correspondence to better angel investment made by those that are involved in angel pools with a significant number of individual angels – 10 or more. Although each angel makes their own decision to invest their own money, they get a broader base of expertise looking at potential deals – sharing the burden of due diligence.

One model of this which has proven very successful is the **Braveheart Venture Fund** in Scotland (see <http://www.braveheart-ventures.co.uk/>). Braveheart was formed in 1997 by four Scottish businessmen as a co-investment vehicle so that they could pool their money and their knowledge to reduce risk. Initially the business operated as an informal investment syndicate. Over the years there was a gradual transition towards becoming a recognized investment management company. This transition was completed in 2004 when Braveheart Ventures Ltd. became authorized as a financing company by the UK's Financial Services Authority. It secures a return on investment of app. 31% compound growth.

Alberta has a number of such syndicates – including the Deal Generators in Edmonton and Calgary and the Venture Alberta Forum. Critical to their success is the quality of investor understanding of the emerging economy, their ability to assess an opportunity and those who present it and their assumptions about exit and terms. More could be done to help stimulate syndicates.

12. **Entrepreneur and Investor Education.** As we pointed out at the beginning, the problem with access to capital is not entirely a money problem. Indeed, many would argue that there are adequate funds available but that the difficulty investors have is in finding suitable projects in which to invest and secure appropriate returns.

What investors are seeking is better prepared, better quality “deals” in which they can invest. This requires a great deal of education and skills development for entrepreneurs – an improved

process for refining a commercial proposition and business plan so that it is meaningful, appropriate, realistic and appealing to investors.

A great many separate efforts have been made to offer enterprise education to entrepreneurs seeking angel and venture funds. Most of the syndicated angel and venture investment pools require presenters to be pre-qualified – to have gone through a screening and education process to make sure that their “pitch” and related plan meets certain standards. The Sirolli program described above (see Credit Unions) provide one example of the way in which such programs operate with considerable local impact.

The quality of such pre-screening and entrepreneur education can be improved. For example, The Kauffman Foundation offers a seminar program for Angel Investors which seeks to provide the knowledge and skills investors need to ensure that they have the strongest possibility of securing quality angel investments which will meet their needs. A similar program exists for entrepreneurs.

Business incubators, such as the Northern Alberta Business Incubator in St. Albert, also provide a basis for the development of entrepreneurial skills relevant to securing capital. Other incubators and resources – TecEdmonton and the Calgary Technology Institute – are also providing such educational services and virtual business incubators are also being proposed, similar to others operating in a variety of other jurisdictions such as the State of Ohio www.thebusinessexpress.com It is critical that we improve the quality of proposals being made to those with funds.

Just as entrepreneurs could improve the quality of their “pitch” for funds, their business planning, market and competitor analysis and strategic positioning, so investors could improve the quality of their due diligence, the rigour of their term sheets and oversight of their investments. Investor education and skill development is also a critical part of the equation.

13. **Bridging the Pre-Commercial Gap – the Seraphim Fund.** None of the solutions canvassed so far deal with the Pre-Commercial Gap. We do not know its size in Alberta. When asked, Calgary VCs have guesstimated it at \$200 million per year in high tech alone (Gordon and Hollinshead, 2006). While we may not put too much weight on this exact number, the guesstimators are involved in the early capital market place and have long experience, so it is safe to assume it is a large number.

The existing institutional structure cannot come close to supplying that much capital. In particular, it does not have the capacity to do deals between \$500,000 and \$5 million except on an exceptional basis. We need an institution which can leverage up on the capacity of the existing angel institutional base to increase deal size by a factor of five to ten times.

We suggest that there is a need for a professionally managed independent fund with a minimum start up capital of \$30 millions to act as a side car for angels whether independents or members of network organizations such as Deal Generator. The Fund could very well be owned by a consortium of such organizations or at least they should be represented on its board. The sources of the fund would include private individuals of wealth as well as financial institutions and governments. It would be helpful to make the fund RRSP eligible in order to tap the enormous pension savings of the Baby Boom.

The Fund would also be a one-stop shop for an array of services such as technical information, patent searches, lists of deals, mentoring, self-help education etc to the angel sector and would use its size to offer access at reasonable cost which the present angel institutions cannot by reason of their smallness. These services would be delivered virtually so that they are available throughout Alberta. This will help to redress the imbalance re: angel organizations between the two big cities and the rest of the province.

14. **Recruiting High Tech Angels.** There are three ways to approach the issue of the shortage of high tech angels.

One short term approach is to create a critical mass of them at the Seraphim Fund and make it possible for regular angels to watch them at work via syndicated deals, evaluating deals in competitions, and spreading their know-how through crib sheets and mentoring.

Another short term approach would be to approach current industry leaders and catalyze them into founding industry-based angel networks based on their personal networks. This approach could be taken with any industry outside oil and gas and real estate, not just high tech.

The long term approach is to finance as many high tech deals as possible in order to grow the pool of serial high tech entrepreneurs who will subsequently become angels.

In regard to this suggestion, it is important to emphasize that a significant failure rate is to be expected. Failure is part of the process by which entrepreneurs learn their craft. In Silicon Valley it is known as earning one's stripes. Angels in Silicon Valley want to see some failures in the history of an entrepreneur as it tells them the person has had a realistic learning experience, has the capacity to deal with failure and come back, and has been made educable and a good listener by the experience of failure.

Alberta is so far behind the eight ball in respect of building a pool of experienced high tech entrepreneurs, and the pressures to diversity so strong⁴, that we have to be willing to expect and tolerate high levels of failure.

RECOMMENDATIONS - IMPROVING ACCESS TO CAPITAL

Angel and early-stage financing is a key concern for the emerging enterprise, but not the only one. A significant access to capital issue occurs later in the growth of the company – when they seek financing between start-up and maturity but before an IPO or other major growth opportunity occurs. There are also challenges at each stage of the company's development in terms of balancing investment, growth and the skills of management – Figure 1 introduced at the beginning of this report makes this clear.

⁴ Alberta Treasury estimates that oil and gas revenues will decline 80% in the next four years, requiring additional fiscal capacity equivalent to a 16% sales tax. Growing the number of businesses outside oil and gas is one way of developing fiscal capacity.

This capital gap is significant – Western Canada’s share of venture deals, though growing slightly, is still small (see Appendix One) and the number of deals across the West are also few – 91 deals in 2006 (the lowest number in a decade) and missing some opportunities – some 200 companies a year fail to secure financing.

In summary, the problems we have reviewed are complex, but well known – the Alberta Science and Research Authority (ASRA) reported on these issues in 1996 - and reviewed earlier:

- A shortage of quality deals in which investors feel able to make investments.
- A young, emerging venture capital industry with too many small funds and not enough experience to make investments which produce high returns.
- A heavy commitment to oil and gas based investments, which makes investing in other sectors in Alberta problematic.

Recommending four key strategies. We propose 4 key strategies, and a series of specific recommendations for industry, the venture financing industry and government.

1. **Grow, Educate and Syndicate Angel Networks.** A critical task for all engaged in the development of knowledge intensive firms and the diversification of the economy is the need to improve the quality of business planning and market analysis so as to enhance the success of firms in attracting angel and venture capital investment. Equally important is to improve the knowledge, understanding and skills of the angel venture capital community with respect to Alberta’s growing knowledge intensive industry sectors and the firms within them. Deal flow will only be improved when the quality of deals offered is linked to a real understanding of the opportunities available.

RECOMMENDATION: The Council should assist in establishing angel networks throughout the Province of Alberta, both through the Council’s chapter structure, partnerships with existing networks and through virtual networks. Such Networks will serve as a means for investor education and skill development and the education and development of the skills of entrepreneurs. To make this more effective, the Council should champion industry sector-based groups.

2. **Endorse Creation of A Fund of Funds for Venture Capital and for Sidecar Angel Capital.** Larger funds attract quality fund management who in turn should be making better investment calls in terms of return to investors and improving the quality of the “deals” they get to see. There is a need to systematically work to improve fund management so that venture capital is a better managed asset in the Alberta economy.

One way of doing this is for the Government of Alberta to create a fund of funds for venture capital. The way this would work is this. The Government creates an independent, arms length body and allocated \$300 million in onetime funds for their management. They in turn partner with a small number of Alberta resident venture capital firms so as to provide investment matching – each time the firm invests \$10 the Government agency provides a % of these funds (often on a one third basis). The \$300 million thus becomes \$900 million.

A similar fund of funds is needed for angel investors – matching syndicated funds from angel sector groups who have successfully completed an angel education program. The sum required would be ~\$100 million, matched at 1:2 (for every \$2 of angel funds, the sidecar would be \$1).

The keys to success here are:

- Investment decisions are arms length from government
- Government matches at one third of the value of an investment made by a venture capital firm
- By creating a sizeable group of funds, the aim is attract Tier One venture capital managers to Alberta.

Other jurisdictions have launched such funds with great success.

RECOMMENDATION: The Council should endorse a fund of funds for both Venture Capital and Sidecar Angel Financing thereby increasing the deal flow to Alberta firms. Key to the Council's task is to ensure that the size of the funds reflects the deal flow which would help grow and sustain a diversified economy. A Venture Capital Fund less than \$200 million, whilst a move in the right direction would not be sufficient to stimulate real economic development or be adequate for investment at each stage of company development – it would likely focus on both early and late stage, just moving the problem to the “middle stages” of company development. The fund has to be large enough to support businesses through to real substantial performance.

3. **Promote Improved Tax Treatment for Venture Capital and Angel Investors.** Just as improved tax treatment (capital gains allowances) would attract more angel investors, so too may it have an impact on “patient” capital – more willing to invest at each stage of the business growth with a stronger exit strategy. In particular, improved treatment of inward foreign investment would help to attract more capital. It is clear, from a variety of studies, that the performance of Canadian investments is significantly improved when a key component of that investment is foreign capital. In addition, there is a need to strengthen the skills and focus the resources of syndicated angel networks so as to improve deal quality and deal activity. Education and training are essential.

RECOMMENDATION: The Council, working with others, should pursue a coordinated campaign aimed at the Federal and Provincial Governments with the intention of encouraging and enabling Albertans, through favourable tax arrangements (especially capital gains allowances) to increase their level of investment in Alberta firms and industries.

4. **Educate Investors and Companies Seeking Funds.** There is a real and apparent need for companies to strengthen their skills to develop strategy, undertake appropriate market analysis and to present themselves in a way that attracts investment. Equally, angel investors need to better understand the emerging knowledge based economy, the opportunity this gives rise to for investment, the nature and processes for effective angel investment and a clear understanding of the role of the angel in the development of a firm.

RECOMMENDATION: The Council, working with others, should ensure that business education opportunities exist in all parts of Alberta (both in person and online) appropriate to the development of investor attraction by firms. A similar commitment should be made to ensure that angel investors have access to learning experiences which will better equip them to close effective deals.

The mandate of the Access to Capital Working Group of the Council of Technologies encouraged us to view angel and early-stage financing as a key issue in the context of the wider issue of financing company development and growth. By focusing on these areas for improvement in the venture capital markets, access to capital would also be improved.

Recommendations for ABCtech and the Venture Financing Community. The working group also recommends:

1. **Expansion of ABCtech’s Networking structure and Programs for attracting, developing and retaining qualified SME and corporate leaders** – this is key for identifying early entrepreneurs and supporting new enterprises. For success, companies need to attract management, manpower, and mentors to support their appeals for financing. Local Networks provide a vehicle for gaining access to knowledge and resources and the building of local clusters. By supporting the development of coaching and mentoring, skills development and experiential learning, the Council helps retain individuals showing promise and attract firms to rural Alberta and the Province overall.
2. **Alberta venture funds should emulate the best performing funds** - such funds need to enter market sectors early, make focused bets, concentrate on winners, build and develop companies and move companies through several growth stages and engineer large exits. The Council should encourage these practices – fewer but more focused investments in early-stage developments focused on excellent management and sound business plans, holding resources back for growth and leveraging Alberta’s skills to improve firm performance. The aim should be to build vibrant firms with sustainable and sizeable revenues through global sales.
3. **Sponsorship of a Commercialization Fellowship Program** – encourage, enable and equip science, technology and engineering graduates to better prepare themselves for company leadership. Successful Alberta firms should second key staff for periods of time to help other firms become successful; Commercial and Industrial fellowships aimed at enhancing the mentoring and coaching role of serial entrepreneurs; systematic use of the Council’s networks to support innovative firms in all stages of their development; syndication of market intelligence and opportunities – all things needed to support innovative firms in their quest for growth.
4. **Banks, credit unions and BDC to develop “sidecar” funds for angel investments** – providing matching funds for angel investments in key technologies so that once the firm has achieved its first set of objectives (those which led to the angel investment), they are seen as pre—qualified for the sidecar funds at an Alberta financial institution, aimed at growing the company to its next stage. As part of this opportunity, the financial institution should require that firms seeking sidecar support be a member of a valued entrepreneurial network – the Council could be one such network.
5. **Continuous assessment of the performance of Alberta firms and venture capital investment** – identify best practices, publicize success and engage industry sectors.

Recommendations for Governments of Alberta and Canada. In addition, the Council should endorse:

1. **The Government of Alberta to adopt a program similar to the Small Business Innovation Research (SBIR)**, which requires that a % of all government R&D activity be allocated to small firms – large firms are ineligible to compete. Most R&D funds currently are spent in Universities, yet most innovation that reaches the market does not come from Universities. The Council should encourage a R&D procurement strategy that recognizes the critical role of small to medium enterprises in the economy and gives them a “leg up” in the development and adoption of new technologies.
2. **Expansion of the Alberta Ingenuity Industrial Fellowship program**, which funds some 40 awards annually to help companies develop technologies and speed commercialization. The

Council should work closely with Alberta Ingenuity to attract more applicants from rural Alberta and more applicants from different fields of technology.

3. **A better alignment of capital gains, capital loss and capital roll over arrangements for investors with the need to expand angel funds in Canada.** This is an example of where tax policy can help to make a difference.
4. **A change in SRED tax credits** – companies should not lose their Canadian Controlled Private Corporation status if they attract significant foreign equity partners, foreign affiliates or work extensively in foreign markets. Refundable SRED tax credits should be made available to companies that become publicly traded.
5. **Development of an Alberta SR&ED matching credit** – so that we can compete with other jurisdictions.
6. **Elimination of the withholding tax on capital gains made by foreign investors who invest in the private equity of Canadian companies** – In addition, we should extend rollover provisions to cross-border mergers, so that strategic partnerships with foreign companies do not trigger additional taxation and eliminate the requirement that non Canadian investors file a Canadian tax return - we should be encouraging foreign inward investment, not punishing it.
7. **Mergers, limited liability corporations, Canadian limited partnerships, foreign private investors and other amendments to Section 116 of the Federal Income Tax Act dealing with foreign venture capital disclosure** – aim to encourage such investment as a way of expanding funds and the quality of venture capital management.
8. **Amendment of the Canada-US Tax treaty to provide treaty protection to Limited Liability Corporations (LLC's) so that venture capital funds structured as LLC's in the US can claim treaty benefits** – e.g. reduced withholding tax rates on dividends, interest and capital gains.

The execution of the recommendations – the 1st President's Council's challenge – will transform for the business environment in which Alberta firms operate, a transformation that is essential for technology-based enterprises to contribute to diversifying the Alberta economy.

CONCLUSION – PREPARING FOR THE FUTURE

The Government of Alberta's direct revenues from the energy sector in 2005/6 were CAN\$14.3 billion. Energy revenues in 2007/8 will fall by \$3 billion from the 2005/6 peak. They will fall a further \$2.5 billion in the following two years. This gradual decline to \$8.8 billion – some 61% less than the 2005/6 figure - reflects not only energy prices, but also lower production, lower revenue from sales of leases, increased costs of production and processing, and an increased share of oil royalties paid on bitumen rather than on conventional/synthetic crude oil.⁵ The royalty review may have an impact on this decline. The energy sectors GDP contribution for Alberta is currently app. 28%. By 2020, the energy sector GDP contribution is expected to rise to 30% on the assumption that growth pressures – labour shortages, rising costs of construction, infrastructure and environmental management issues - are managed well. If these pressures are not well managed, the energy sectors contribution to GDP could fall to 26.5% or lower⁶ which will adversely affect revenue forecasts.

Given the challenge of declining energy revenues and their potential impact on our economy, it is key that Alberta grow its knowledge intensive firms for diversifying the economy. The recommendations made here would change the business environment for Alberta, improving Access to Capital for early-stage, technology-based enterprises and further increasing the innovation and commercialization, productivity and value-adding enterprises. **It is time for action to make this Province deserving of the brand of the land of “enterprise and innovation.”**

⁵ Source: Government of Alberta, Budget 2007.

⁶ *Alberta's Economic Performance and Growth Scenarios*. Government of Alberta – Employment, Immigration and Industry.

APPENDIX – MEMBER SURVEY

To help understand the current views of members of the Council of Technologies, the working group asked members to respond to an online survey in April 2007. Some 203 did so, with 141 providing comments and more detailed suggestions. One third of the respondents had direct experience of seeking venture or angel funds – the remainder were investors, self-employed who may be interested in financing at a later stage or in some way associated with the innovation supply chain.

The options for change outlined above were shared with the members, both in terms of a document describing them (see <http://www.abctech.ca/> under Access to Capital Discussion and Survey) and by summary statements in the body of the questionnaire itself. Here is a brief summary of key findings:

- 70% indicated that they recognized that access to capital was difficult for Alberta firms.

When asked to indicate which combination of the options for change they thought would have most impact in terms of increasing access to capital, the top five were:

- Changing the tax treatment for investors (15%)
- Flow through Shares for Investors in Alberta Companies (13%)
- Entrepreneur and Investor Education (12%)
- Sidecar Funds for Angel Investors (9%)
- Revised SR&ED Tax Credit Scheme (9%)

When asked to support a number of statements with respect to this issue, the top five statements were:

- “The tax system needs to change to make early-stage investment more attractive” (18%)
- “We need to invest in entrepreneur education to improve their chances of securing funds” (15%)
- “We need to do more as a business community to show the value of angel investment” (13%)
- “The banks and credit unions ought to be more active in financing early-stage companies” (10%)
- “We need to invest in education for angels to improve their ability to invest wisely” (8%)

In a more comprehensive analysis of the questionnaire which uses a comparative ranking system, the major themes that emerge are:

- Aggregation of venture funds and increase size of venture funds available – more funds for more deals (Rank = 1)
- Investor and business education (Rank = 2)
- Improved tax treatment for investors (Rank = 3)

In open text comments, it was clear that the data cited above is strongly supported by comments made by members, as the following sample comments indicate:

On the investment environment:

- “Alberta's funding environment is non-existent. It starts at the early-stage: Joe Albertan does not invest in technology. He invests in Mutual funds, in land, resources and possibly US Securities. He does not even know Alberta has a high tech industry let alone that it would be a good investment. Even he

wanted to invest in Alberta High Tech, he would not know how. Everyone talks about the lack of VC funding. We also have a lack of alternate funding sources. Other than oil and gas, venture debt and other funding is generally not available in Alberta. Alberta does not get its fair share of federal programs, such as TPC. Alberta companies also do it to themselves by not looking for readily available funding. An example of that is the low Investment Tax Credit application rate.”

- “This is a tough province to secure non-oil sector financing. The end result may well be less diversification in a growing economy as start-ups move to other locations as a matter of convenience or as a result of being compelled by out of province investors.”

On the attempts to secure funds:

- “We were not able to secure ANY funding from within the province. We were, however, able to secure substantive (>\$90 million) funding from outside the province. It is VERY unusual and difficult to raise venture funding without local VC firm involvement.”
- “Finding funds is difficult but not impossible in Alberta. The key is to have a solid business case/plan with realistic value expectations. While family/friends and angel money can be raised, getting large amounts for knowledge based companies is difficult. This is due to a lack of experience within the investment community, ease of making significant returns from lower risk investments in the energy sector and real estate, and the lack of dedicated VC funds for knowledge based sectors.”
- “Early-stage companies in Alberta can spend years trying to get risk capital and often it takes too long and the window of opportunity has already closed.”

On the options for change

- “Networking is a key for early-stage entrepreneurs and enterprises - a form of self-help. Gets them exposure to mature individual investors - but they too need help in developing. When both are knowledgeable, the whole environment is safer and more appealing.”
- “Taxpayer money should not go directly into company coffers. Governments can improve the investment climate, but should not invest directly. Also, all dealings involving government money should be open and transparent: if a company cannot withstand public scrutiny in its dealings with the government, then it should not come to the government for help. The taxpayers' interests must always trump those of individual firms, because of the ever-present potential for abuse or favoritism towards "friends" of those in power.”
- “Alberta needs an influx of seasoned managers to help grow our economy. Investors invest in management and that is often lacking with Alberta companies.”
- “There is plenty of money in Alberta, however very few know how to invest in private companies, and very few private companies know where to go to get investment after tapping their friends and family.”
- “There should be a category of investment call pre-commercialization where investment dollars put in are treated differently - matched by government because once a business is cranking cash it's a much different story. A company with a decent Cash Story can raise investment without giving away the company - which is the underlying issue in many cases”.
- “Part of the reason the oil investment works is because they have a group called PTAC whose job it is to match new ideas, technology etc to industry. This is critical because if there is a new idea, and a clear path to a problem clear path to money - in an industry -investors will be happy to invest. The problem is most companies don't have that path well understood and the investor is not willing to pour money into the idea, hoping to find the real problem and path”.