The Cleantech Leadership Summit is SDTC’s flagship event that for the past two years has managed to convene over 150 industry leaders, policy makers and investment-community members, catalyzing important discussion about furtheing Canada’s cleantech sector both nationally and on a global scale. In our “Picture Canada as a Global Leader in Cleantech” series, we’ve captured the key messages relayed at the 2017 Leadership Summit with the goal of continuing the discussion. Moving beyond the day of the conference, we’re extending the exploration of the key themes from the Summit while providing you with additional information, data and important links to related cleantech sources.

PANEL 1: Public-Sector Finance Partners

$450 million for project finance

EDC starting working with cleantech companies in 2012; in 2016, EDC support was provided to 126 cleantech innovators with more $1 billion of funding. EDC is now supporting clients in various phases of development. In 2016, EDC provided over $100 million to 52 companies in their early commercialization phases, each with their unique challenges. Budget 2017 provided funding for EDC to now support even higher-risk cleantech projects or projects whose development is in the best interests of the country. A greater weighting is now given to a project from a policy (“good-for-Canada”) perspective. As such, the organization set a goal of 200 companies supported over the course of the next three years.

What have we learned so far?

Collaboration is critical. EDC has established a cleantech team that is working together with SDTC and BDC. The working group will provide a collective and coordinated response to Budget 2017 expectations, establishing clear lines and interrelationships to help companies understand who does what.

EDC has identified a lot of potential for international engagement of Canadian cleantech in global markets while at the same time, acknowledging some hurdles that will need to be addressed. According to Daignault, Canadian cleantech entrepreneurs face three big challenges:

1. Ability to scale enough to enter major markets
2. Ability to gain support through different phases of development
3. Ability to structure themselves accordingly for success, employing the necessary technical and managerial capabilities.

“Even after a product is tested and proven, making the first sale, or first few sales, is very challenging and very difficult.”

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In the last 18 months, BDC has started to focus on cleantech, wanting to play an important role to close the ‘bankability gap’ that lies ahead of product commercialization for cleantech entrepreneurs. BDC has identified cleantech as an area with long-term attractive fundamentals but says Rohac, it is also a sector with “...more complexity, more capital-intensive needs, more regulatory issues, and even more pressure to export sooner.”

Post Budget 2017, BDC’s mandate is to increase its involvement and funding of Canadian cleantech. BDC has been working on streamlining its processes and incorporating feedback from stakeholders to provide a seamless, integrated offering with partners in the cleantech ecosystem. Together with EDC and SDTC, BDC is sharing info without duplication and working together so that there is “no wrong door that companies can come in”, says Rohac.

“THERE IS NO COOKIE-CUTTER APPROACH TO FINANCING THAT IS GOING TO WORK FOR THESE [CLEANTECH] FIRMS. EACH COMPANY HAS ITS UNIQUE NEEDS. CHALLENGES AND OPPORTUNITIES. WE’RE GOING TO HAVE TO BE CREATIVE, BE FLEXIBLE, WE’LL HAVE TO BLEND DIFFERENT TYPES OF FINANCIAL INSTRUMENTS ON THE BALANCE SHEET TO MAKE SURE WE’RE PROVIDING A HOLISTIC APPROACH TO SUPPORTING THESE COMPANIES…”

What have we learned so far?

Cleantech firms have many of the same challenges as those in other industries when looking to scale-up. Rohac identified four main challenges:

1. Management capabilities – ensuring firms are properly staffed to scale.
2. Finding new markets – small Canadian businesses are under pressure to expand abroad.
3. Labour – ability to recruit specialized talent.
4. Growth capital – firms need access to high-risk financing.
Martin Zablocki  
President and CEO  
Canadian Commercial Corporation

Canadian Commercial Corporation  
Corporation Commercialising Canadians

Leah Lawrence  
President and CEO  
Sustainable Development Technology Canada

**WHO:**
The Government of Canada’s government-to-government contracting organization.

**Mandate:**
To support the development of trade by helping Canadian exporters access government procurement markets of other nations through government-to-government contracting.

**Who do you help:**
Canadian companies doing business with foreign governments.

**Services:**
- Government-to-government contracting (Sign contracts with governments of other nations for purchases from Canada in the name of the Government of Canada; then sign a sub-contract and flow the contractual commitments through to our qualified Canadian exporter.)
- Commercial advocacy
- Collaborative project development

CCC specializes in government-to-government contracting; they help to de-risk deals with foreign governments, making Canadian purchases much more attractive to foreign buyers. Companies seeking to export can work with CCC to reduce the risks posed by political change or payment issues in other countries. And while they do not provide direct financing, CCC’s involvement increases the comfort level of other financial institutions, helping to open doors and providing access to other financing sources.

**Next Steps?**
- SDTC is continuing to streamline its application process, making it easier for companies to obtain cleantech funding.
- EDC, BDC and SDTC are working together to create seamless, inter-agency handovers to support the commercial preparedness and growth of companies. Measurable and significant increases in inter-agency handovers are occurring as a result of this collaboration.
- SDTC, EDC, BDC and Global Affairs Canada have established a cross-organizational working group to bridge the gap between proven technology demonstration and commercial bankability, facilitating the accelerated entry of SDTC portfolio companies into some of the most strategic global cleantech markets.

**“Canadian Commercial Corporation is a bit of a hidden jewel in the Canadian trade portfolio. […] We do have a real impact on financing.”**

A model across industries
While not expressly dealing with cleantech, CCC’s model works across industries; the corporation generates $2 billion to $4 billion of annual sales around the world. “Virtually 100 per cent of what the US Department of Defence buys from any Canadian exporter, they buy through CCC,” says Zablocki. Formulating a strategy to work with cleantech companies will have the same advantages for foreign governments:

1. Credibility – working with the CCC, the performance risk shifts from a government-to-business to a government-to-government model, providing incentive to do business.
2. Technological expertise – many countries do not have the skills to do procurement well. With Canada’s procurement oversight, the risk of a deal is reduced.
3. Canadian standards – Canada’s reputation for fair trade is world-renowned. Dealing with the CCC eliminates any corruption risk.

**SDTC** advances the pre-commercial development and demonstration of cleantech in Canada.

**Mandate:**
To act as a catalyst and convenor for the cleantech ecosystem in Canada.

**Who do you help:**
Canadian cleantech entrepreneurs looking to develop or demonstrate their pre-commercial technologies.

**Services:**
- Project funding for pre-commercial cleantech projects
- Coaching and support for cleantech entrepreneurs
- Foster and encourage innovative collaboration and partnerships

**Allocation in Budget 2017:**
$400 million (starting in 2017/2018) over five years to recapitalize SDTC

Since its inception, SDTC has helped over 300 companies and at present has $1.5 billion of assets under management. Every year, SDTC funds approximately 20 to 30 of Canada’s most promising cleantech companies and works supportively with them on a project basis over the course of approximately five years. Currently, SDTC is working with 120 Canadian cleantech firms, helping them to commercialize their clean technology offerings.

**“We really should start from a position of ‘yes’. Now, that doesn’t mean we always say yes; we say yes to about 15% of the projects that come before us.”**

Moving to Scale
As SDTC-funded firms consider scaling up their technologies, SDTC is helping to position them for growth. While SDTC works with companies on their technical competencies, they are also increasingly working with companies to develop their managerial capabilities, understanding that they face common corporate obstacles. “We see a lot of the same challenges with our companies that everybody else does,” says Lawrence.

While the appetite for risk for cleantech funding by the Government of Canada (and its agencies) is improving, SDTC-funded companies are discouraged by the high costs of obtaining Canadian commercial financing. Unable to get competitive rates from Canadian commercial institutions, many are heading south to the US to get the capital they need. SDTC is working with financing partners, EDC and BDC, on early identification of project needs to help Canadian companies get the funds they need to do business. Working flexibly and across organizations, the partners will work together early on to manage the transition to other agencies in the cleantech-funding chain, ensuring entrepreneurs are supported throughout the course of their journeys.
PART 2: Access to Customers - Procurement Strategies for Canadian Firms

WHAT’S GOVERNMENT DOING TO PROVIDE BETTER ACCESS TO CUSTOMERS?

Building on the consultations, government is now in a “Team Canada” implementation mode, working together across departments with a clear sense of direction and a spirit of collaboration. Budget 2017 underlined the importance of growing ideas, making sure they are being properly demonstrated, ensuring firms are financed appropriately at various stages of project development, and that there is appropriate domestic and international placement (trade promotion) for Canadian products.

The Government will not only work to deliver on Budget 2017 commitments, but also take important measures for change within government itself. There will be a greater inter-government focus on being early adopters of technologies, as well as a greening of government procurement efforts—federally and provincially—with ambitious goals of greener procurement policies leading to early adoption of Canadian technologies across government agencies.

Global Affairs is poised to help companies realize their cleantech ambitions, and has staffed itself with professionals with deep knowledge, ready to answer questions or direct companies to others who do have the answers.

“THE CLEAN GROWTH HUB WILL BE AN IMPORTANT RESOURCE IN THIS REGARD.”
GOVERNMENT PROGRAMS AND OFFICES TO HELP CANADIAN COMPANIES

1. BUILD IN CANADA INNOVATION PROGRAM

The Build in Canada Innovation Program (BICP) helps Canadian companies of all sizes move their state-of-the-art goods and services from the laboratory to the marketplace.

Launched by the Government of Canada in July 2017, the program helps innovators:
- land a first major reference sale
- sell their innovation, but keep the intellectual property
- get their innovation tested in a real-life setting
- gain feedback to help get products to market faster
- pursue a joint-venture or strategic alliance
- tackle a market access issue
- establish their company abroad
- export
- land a first major reference sale
- sell their innovation, but keep the intellectual property
- gain feedback to help get products to market faster
- pursue a joint-venture or strategic alliance
- tackle a market access issue
- establish their company abroad
- export

The program pays up to $500,000 for non-military innovations and up to $1,000,000 for military innovations.

Want to learn more?
Visit: bit.ly/2u8Q0gp

2. OFFICE OF SMALL AND MEDIUM ENTERPRISES

The Office of Small and Medium Enterprises (OSME) advocates on behalf of SMEs and encourages their participation in federal government procurement.

- understanding and reducing the barriers that prevent SMEs from participating in federal procurement
- advising government buyers and policy makers on SME concerns
- recommending improvements to procurement tools and processes to encourage SME participation in federal procurement

Want to learn more?
Visit: bit.ly/2vQOmMd

3. THE CANADIAN TRADE COMMISSIONER SERVICE

As part of Foreign Affairs, Trade, and Development Canada, the Canadian Trade Commissioner Service helps Canadian companies and organizations succeed in foreign markets by promoting the economic interests of Canada in the global marketplace.

The Canadian Trade Commissioner Service has trade offices across Canada and in 181 offices around the world.

Service Overview:
- The Canadian Trade Commissioner Service (TCS) provides on-the-ground intelligence and practical advice on foreign markets to help companies make better, more timely and cost-effective decisions to achieve their goals abroad.

- TCS services are offered free of charge to client companies and organizations;
- its Canadian Technology Accelerator (CTA) program provides Canadian start-ups with access to the resources and contacts they need to grow internationally.

The TCS navigates the complexities of international markets, helping companies looking to:
- export
- establish company abroad
- tackle market access issues
- pursue a joint-venture or strategic alliance
- participate in global value chain
- seek technology and R&D partnerships

NEXT STEPS
For Government:
- The Trade Commission Service is working on a much more intentional set of services, including self-diagnosis tools based on industry feedback; digital services provided by government are also understood as lacking and are being assessed for improvement.
- Procurement, Public Services and Procurement Canada is currently doing an environmental scan and then a consultation with suppliers to help inform future programs and changes in policy.
- NRCan acknowledges it needs to make sure it is connecting the dots to global development banks.
- It will also explore ways to strengthen the CleanTech Hub into a federal and provincial configuration.

For Industry:
- Industry is being challenged to continue to provide feedback, test new systems and collaborations and speak openly about their experiences.
- To win supply contracts, SMEs who are looking to be more competitive should consider “agglomerating” with other firms, building a consortium, learning themselves to a larger OEM to win procurement bids.

4. INNOVATIVE SOLUTIONS CANADA PROGRAM

Budget 2017 committed $50 million to launch a new procurement program called Innovative Solutions Canada, modeled on a small business innovation research program in the United States. As part of this program, a portion of the federal government’s and agencies’ budgets are being reallocated to buy early-stage R&D, and late-stage prototypes and other goods and services from Canadian innovators.

While full details of this program are yet to come, its complete mandate is outlined here: bit.ly/2u0xG41

SDTC-FUNDED COMPANIES FIND GLOBAL MARKETS

Canadian cleantech companies export their goods and services around the world. With an estimated $6.7 billion in export dollars in 2016 and 78% of Canadian companies exporting their goods worldwide, Canadian cleantech exports are on a growth trajectory. Here are a few examples of where SDTC-funded companies find markets for their goods.

Ballard Power has sold their batteries in California, China, and Scotland.

Effenco has customers for its heavy vehicle hybrid solutions in the US, England and Ireland.

Minesense has sold its mining technology to the US, Australia, Chile and South Africa.

Corvus has tanker installations in Norwegian and Danish ships with crane installations in Shanghai.

Hydrogenics has exported its data solutions to China and Norway.

Effenco has customers for its heavy vehicle hybrid solutions in the US, England and Ireland.

Source: Analytics Advisors, 2017 Canadian Cleantech Technology Industry Report

NEXT STEPS
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PANEL 4: Infrastructure in Canada – An Innovative Path to Prosperity

He urges us to look at infrastructure through a broader lens. “Infrastructure is a life-cycle business,” says Siematycki and, therefore, there are a number of places innovation can be applied—not only to construction, but also to long-term operations and maintenance, financing, monitoring and data collection. He adds that there are also numerous ways to add innovation and drive environmental benefits into infrastructure projects—through architecture and design, materials, and waste and remediation.

Finally, he reminds us that infrastructure is much more than an asset we can buy and sell – it is the cornerstone of communities; and as such, people need to be engaged and processes created to ensure that citizens feel like they’re getting good value for their money and being heard as these important discussions about infrastructure are occurring.

There is also now a framework to try to understand the relationship between climate and innovation and infrastructure; and a three-lens test for infrastructure investment that includes:

- A full life-cycle/total expenditures (TOTEX) assessment
- A full carbon assessment, including a rising price of carbon
- An assessment of innovation potential and best available technology solutions which could be applied to the project

Bak also advocates for an agency—that would serve a similar role that the FDA does in the medical industry—that could vouch for new technologies, providing a signal of certainly to large-scale investors. Bak spoke about “starting at the top” when it comes to incentivizing clean investment—motivating large asset owners such as pension funds and insurance companies. “These asset owners are now acknowledging their fiduciary duty to understand the impact of climate change on their portfolio and the impact of their portfolio on climate change.” These funds are important because they have the potential to leverage public-sector money three or four fold.

“FIDUCIARY DUTY IS A STRONG MOTIVATOR AND THAT WILL CREATE MARKETS, BUT WE NEED TO FIGURE OUT HOW TO GET THE MARKET SIGNALS TO THESE PEOPLE.”

PANEL MEMBERS:

MATTI SIEMIATYCKI
Associate Professor of Geography and Planning, University of Toronto

CELINE BAK
President, Analytica Advisors

GEOFF CAPE
CEO, Evergreen

DREW FAGAN
Fellow, Munk School of Global Affairs, University of Toronto

DARYL WILSON
CEO, Hydrogenics

“GOVERNMENTS HAVE GRASPED THAT INVESTING IN INFRASTRUCTURE IS GOOD FOR TODAY IN TERMS OF ENVIRONMENTAL IMPACTS, JOB CREATION AND ECONOMIC GROWTH, BUT ALSO HOW INFRASTRUCTURE SETS YOU ON A PATH FOR FUTURE GROWTH AND DEVELOPMENT. THAT’S REALLY THE KEY OPPORTUNITY: THE LONG-TERM ABILITY TO SHAPE THE COUNTRY, OUR PATH AND GROWTH TRAJECTORY.”

The regulatory environment has huge potential to enable disruption. Capital allocation is a key tool to make this happen and infrastructure planning brings these two elements together. As Canada looks to achieve high-profile commitments to green growth it must rethink how to deliver traditional infrastructure to make room for innovation and new ways of delivering services. What needs to be done to stimulate the adoption of clean technologies in private and public sector infrastructure projects?
HOW WE DEPLOY THESE RESOURCES (IN A WAY THAT’S FUNDAMENTALLY INNOVATIVE [IS CRITICAL]), NOT JUST FOR CANADA, BUT ALSO TO PLUG INTO THIS GLOBAL OPPORTUNITY TO BE PART OF THE NEXT WAVE OF CITY BUILDING.”

And what’s spent on infrastructure by governments is only the beginning, with the private sector spending multiples of public sector dollars. “There is huge potential for leveraging.” Infrastructure impacts us all. We need to work together, conducting intentional ecosystems—of various levels of industry, academia and government—coordinating activities across communities and moving beyond the industry associations that currently exist. We also need to “push on a series of key interventions,” says Cape—creating effective procurement policies, financial and regulatory incentives, and prototyping ideas in real-life demonstrations of innovation to spur adoption.

GREEN BANK FINANCING: Accelerate Clean Energy Deployment in Canada through the Canadian Infrastructure Bank (A Report)

In partnership with the Coalition for Green Capital, and with support from The Ivory Foundation and The Trotter Family Foundation, in 2017, Evergreen published a study focused on how a Canadian “Green Bank” could boost both public and private investment in renewable energy, energy efficiency, and other clean energy and green infrastructure. The report says that eliminating an institutional gap and market barriers has the potential to produce wide economic, fiscal and environmental benefits for Canada.

The study suggests the Canadian Infrastructure Bank (CIB)—part of the Government of Canada’s proposed five-year, $17.7 billion infrastructure investment plan—as the logical home for a national Green Bank. The model proposed by the study provides the tools and institutions to address specific market barriers and finance project deployment; according to the authors, clean energy infrastructure is ideal for this investment approach.

Want to learn more? Visit bit.ly/2u2ySTRL for the full report.

PROFILE: CANADA INFRASTRUCTURE BANK

Created under Canada’s historic infrastructure plan—investing more than $80 billion over 12 years—the Canada Infrastructure Bank (CIB) role is to boost federal support of transformational infrastructure projects required for the long-term benefit of Canadians by enabling private sector and institutional investment.

Specifically, the Bank will:
• Invest in infrastructure projects that have revenue-generating potential and are in the public interest.
• Attract private sector and institutional investors to projects so that more infrastructure can be built in Canada.
• Serve as a centre of expertise on infrastructure projects in which private sector or institutional investors are making a significant investment.
• Foster evidence-based decision making and advise all orders of government on the design of revenue-generating projects.
• Collect and share data to help governments make better decisions about infrastructure investments.

Want to learn more? Visit bit.ly/2pCKomP

MUNK SCHOOL OF GLOBAL AFFAIRS, UNIVERSITY OF TORONTO

DREW FAGAN

“THE ISSUE IS OVER THE EFFECTIVENESS OF THE SPEND.”

Fagan cites the lack of a national infrastructure plan, and relatively little data with regard to where, and how effectively, we spend. There is reason for optimism, however, with the Canada Infrastructure Bank. Says Fagan, “The Bank is becoming an agency not just to push for greater private-sector investment (and equally important, with the right metrics and user fees) but also data with regard to the entire panoply of spending. […] I think the bank will help with data and best practices to ensure everyone is spending more effectively.”

Fagan says that the provinces, in particular Ontario, are completing long-term infrastructure plans to ensure effective spends for planned infrastructure commitments. As such, the time is now to push for innovation to be at the forefront of these plans to influence generations of future building.

INVESTING IN GREEN INFRASTRUCTURE

To advance Canada’s efforts to build a clean economy, Budget 2017 lays out the Government’s plan to invest $21.9 billion in green infrastructure, including initiatives that will support the implementation of the Pan-Canadian Framework on Clean Growth and Climate Change.

Of this, $9.2 billion will be provided to provinces and territories over the next 11 years through bilateral agreements. A further $5 billion will be available for green infrastructure projects through the Canada Infrastructure Bank and $2.8 billion through a series of national programs.

Want to learn more? Visit bit.ly/2fADgrM
Next Steps?

- The PPF interim report is currently under review. PPF is currently holding roundtables to solicit industry feedback before publishing a final version.
- SDTC, together with other cleantech stakeholders, need to engage with provincial governments to ensure innovation is built into provincial infrastructure plans.
- Work needs to begin to create an innovation ecosystem beyond SDTC/BDC/EDC, adding corporations (large and small) and academia and bring them all together to connect the dots to drive innovation adoption in Canada’s infrastructure projects.

While there are huge opportunities for effecting change with the planned public-sector spend on infrastructure, it is in an area that has traditionally been very resistant to innovation.

“When you’re in government, or in a crown corporation, or in an agency that deploys this kind of capital, there is a strong focus on not taking risk, on not causing embarrassment to senior officials, and on not doing anything new.”

And this is not only a problem that’s internal to government, says Wilson. Reinforcing “that wall” and enforcing “no change” is a whole army—large EPCs, engineering companies, financing institutions—with vested interests in doing things the way that they’ve always been done.

What we need to be doing with our infrastructure spending is “doing new things with new things,” says Wilson. “There’s a big opportunity but you’re a fool to go after it,” he adds, citing that his proven solution, while already commercial and in use in Germany, still does not have acceptance and adoption in Canada.

So what do we do?

He suggests that when we frame major spending programs, some of the spending needs to be tied to new solutions. Innovation, experimentation and/or piloting need to be woven into future infrastructure plans. He advocates for a combined approach of tested and true, and new and innovative.

“We need to create scaled opportunities so that we can show what we can do alongside the bulk spend,” he says.

Another lever is requiring EPCs to work with SMEs and cleantech companies in “forced marriages” of big and small. These unions would encourage big companies to innovate, and start to break down walls.

Lastly, funding pilots at infrastructure scale demonstrates technology effectiveness and risk management; it gives people the confidence to keep scaling that new solution.

“Leadership and experimentation are critical.”
A national intellectual property strategy would advance creation, ownership and commercialization of Canadian IP, including in the cleantech sector. This strategy should be modern, robust and ensure the interests of innovative Canadian cleantech businesses are promoted and protected in new international standards and certification programs. What needs to be done to catalyze the development of such a strategy to advance Canadian cleantech companies? What are the key elements of such a strategy? Who needs to be engaged in delivering such a strategy?

**PANEL MEMBERS:**

- **MYRA TAWFIK**  
  Senior Fellow, Centre for International Governance and Innovation

- **MICHEL GIRARD**  
  Vice-President, Strategy and Stakeholder Engagement Branch, Standards Council of Canada

- **LOUIS CARBONNEAU**  
  Founder and CEO, Tangible IP

- **JIM HINTON**  
  Associate, Bereskin & Parr

- **MARK SCHAAN**  
  Director General, Framework Policy Branch, Innovation, Science and Economic Development

**CENTRE FOR INTERNATIONAL GOVERNANCE AND INNOVATION**

**MYRA TAWFIK**  
Senior Fellow, Centre for International Governance and Innovation

**AS A COUNTRY WE HAVEN'T TAKEN IP SERIOUSLY. IT HAS NEVER BEEN A DRIVER OF OUR ECONOMIC WELL-BEING. FOR MANY INNOVATORS AND START-UPS, IP IS AN AFTERTHOUGHT, THEY WILL DEAL WITH IT ONLY WHEN THERE'S A PROBLEM,” SAYS TAWFIK. IT HAS NOT BEEN THOUGHT ABOUT STRATEGICALLY—it that on all levels. We don’t talk or think much about how IP is practiced on the ground. We don’t study IP, we don’t research it and we don’t really know how to strategically leverage it to competitive advantage.

“CANADA NEEDS NEW THINKING ABOUT IP AND WE NEED TO GET THERE QUICKLY.”

**In the span of the last two or three years, we’ve seen much more discussion about IP and IP strategy. IP now warrants a paragraph in the 2017 Budget. We are in a moment where there is a growing awareness that we need to start thinking differently. The Government is now looking at IP as a priority when constructing trade agreements. We need to integrate new IP thinking into law schools; we need to create inter-disciplinary programs, in business, in STEM (science, technology, engineering and mathematics), and even into the arts and humanities. Fresh and new ways of thinking are needed—not only in regard to how we create and protect our creativity, but also how we leverage that to our national economic advantage.**

**PANEL 5: National IP Strategy for Cleantech to Better Capture Wealth from our Investments**

**INTRODUCTION:**

Current work by the Government of Canada on the development of a new IP strategy is designed to address Canada’s lagging position on intellectual property relative to other countries.

“IN RECOGNITION OF THE IMPORTANCE OF A WELL-FUNCTIONING INTELLECTUAL PROPERTY REGIME, BUDGET 2017 ANNOUNCES THE GOVERNMENT WILL DEVELOP A NEW INTELLECTUAL PROPERTY STRATEGY OVER THE COMING YEAR. THE STRATEGY WILL HELP ENSURE THAT CANADA’S INTELLECTUAL PROPERTY REGIME IS MODERN AND ROBUST AND SUPPORTS CANADIAN INNOVATIONS IN THE 21ST CENTURY.”

BUDGET 2017

The development of an effective Canadian IP strategy will require engagement of other groups, and a collaborative, multi-stakeholder approach. Intelligent IP strategy will be key to advancing Canada’s cleantech players, who should actively work to assess and monitor their IP activities, engaging with government on both IP asks and potential standards.

**SOVEREIGN PATENT FUND – A SOLUTION FOR CANADA?**

The notion of sovereign patent funds (SPFs)—state-backed investment vehicles that acquire IP from third parties to further national objectives—are emerging in countries like France, Japan and South Korea. SPFs work to promote the greater good, giving innovators in a specific sector the freedom to operate and opportunities to scale.

In April, 2017, the Centre for International Governance Innovation published an article, titled Why Canada needs a Sovereign Patent Fund, advocating for an SPF mechanism for Canada.

To read the full article, click here: bit.ly/2q32pzz
When we compare the US to Canada, in the US, entrepreneurs are drilled very early on that IP is part of corporate strategy. In Canada, while we don’t resist the notion of IP, it’s not a “natural” way of doing business. “In Canada we live in a bit of a bubble when it comes to the IP ecosystem, and understanding the risk and exposure,” says Carbonneau. It’s not until Canadians look to do business in the US—whose economy, over the last hundred years, has been built on technology and backed by a strong patent system—where they encounter their first IP hurdles. In Canada, historically, IP has been an afterthought; it is now becoming more top of mind. When looking at developing our own national IP strategy, we have some good global examples to reference, in particular China, the US (where recent regulatory changes to patent protection have weakened their innovation-based economy), and Singapore, to name a few.

"THERE ARE DEFINITELY THINGS THAT WE CAN DO BY LOOKING AT WHAT OTHERS ARE DOING."

Citing the Cycle Capital and SDTC study about the relationship between IP and investment, Carbonneau says, “In terms of patents filed, we are at approximately where we should be at 10% of that of the US and 2% of that of the world, but when you realize that 70% of those patents belong to foreign multinationals [the picture is not so good]. Companies come here, start an innovation centre, get the tax credits and then roll the benefits back to their home country. We are subsidizing the R&D of the rest of the world.”

FORGING A CLEANER AND MORE INNOVATIVE ECONOMY IN CANADA

In December 2016, Cycle Capital Management, and Sustainable Development Technology Canada (SDTC), in collaboration with Ecotech Quebec, released a study titled, Forging a Cleaner and More Innovative Economy in Canada. The study examined the current challenges of the financing chain to foster innovation in Canada’s cleantech sector. Amongst other things, the study benchmarked Canadian cleantech against US cleantech and identified strengths and weaknesses in relative economic terms.

To download the full study, click here: bit.ly/2wN2ykG

WHAT IS A PATENT?

Whether you develop new technology or improve well-known products or processes, you’ll likely need a patent. Patents apply to newly developed technology as well as to improvements on products or processes. Patents provide a time-limited, legally protected, exclusive right to make, use and sell an invention. In this way, patents serve as a reward for ingenuity.

Want to learn more? bit.ly/2QoDy9G

WHAT IS A TRADE SECRET?

Trade secrets include any valuable business information that derives its value from the secrecy. Trade secrets can be very valuable to you whether you have developed new technology, designed original products, created the perfect recipe, or have a gold mine of customer data. One of the most famous trade secrets is the Coca Cola formula—a well-guarded secret for over 100 years. The business value of the formula is why the company goes to extremes to keep it confidential.

Want to learn more? bit.ly/2qAr66U

Typically, when it comes to initial IP strategy, a company’s first focus is to get a patent to protect the innovation (i.e., the core business). “This is the start-up strategy,” says Hinton, “Companies allocate resources where they are needed…and get that first piece [of IP] to protect what they’re doing.” But companies need to think beyond just that first piece of IP or the provisional patent, he says. Some sophistication is needed to move past this point. Companies need to look at what their competitors are doing.

"Is there IP that you can create that will prevent your competitors from moving forward?"

IP strategy needs to be at least two-folds says Hinton.

“Generating your own IP and protecting what you have [is the first part], but you also need to be prepared to have this freedom to operate—this risk management.” The nature of IP is a “layer of rights,” says Hinton and as part of effective IP strategy, companies need obtain the right to prevent others from doing what they have the exclusive right to do.

"YOU NEED TO MOVE BEYOND FIRST PROTECTION AND HAVE MORE SOPHISTICATION IN YOUR STRATEGY."

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CANADA NEEDS AN INNOVATIVE INTELLECTUAL PROPERTY STRATEGY – AN OP-ED BY JIM HINTON AND PETER COWAN

 Shortly following SDTC’s Cleantech Leadership Summit 2017, Jim Hinton, together with Peter Cowan, published an article in the Globe and Mail about Canada’s approach to innovation. The article applauds the Government’s call for a national intellectual property strategy and “lears Canada away from the current cycle of reinvesting only in innovation inputs, such as publicly funded research and talent, while allowing the outputs to be raided by foreign firms, with Canadian companies then forced to licence back their own taxpayer-funded IPs.” Canada’s innovation strategy must consider ownership and retention of our IP as one of its core principles,” say the authors.

To read the full article, click here: tgom.ca/2W6BV5J

Patent applications per million population

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Source: WIPO Statistics Database and World Bank, October 2016
When we look at trade deals and the degree to which IP is favoured, we need to strike the right balance between the needs of the economies of traditional sectors—easy access and market relevance—alongside this ‘currency of the new economy,’ says Schaan. “IP territory in a trade agreement is deeply technical, highly litigious and negotiated,” says Schaan and our relative level of savviness and understanding is critical. IP has grown in relevance over the course of trade agreements. While market access and rules of origin have always been critical asks in trade agreements, says Schaan.

“When increasingly, future trade agreements have been predicated on this notion of ideas, and how you can lock down the rent and extol the value from the idea in a way that benefits your country.”

Schaan says that we are increasingly facing sophisticated trading partners who have a very clear sense of what they’re looking for when it comes to IP asks; they know how they want to increase value for their homegrown companies. As Canadians, we are now increasingly creating our own lists of asks.

As we move to structuring new agreements, the degree to which Government understands the needs of Canadian firms, not only in IP, but more broadly, is very helpful, says Schaan, adding that when it comes to IP, the more specific the feedback, the better. “We need to understand the modalities and the particular asks,” he says, to ensure that we’re “paving the highway to freedom to operate and a long-standing capacity to earn rent.”

Along with a number of other key initiatives spurred by Budget 2017, “we’ve embedded this notion that ‘IP is critical at the front-end of business strategies.’” While good rules in an IP regime help, says Schaan, it will also be critical for Canadian companies to front-load their investments into intellectual property. Concurrently, the Government can work to reduce friction points between connections—the education system, programs and services, access to markets and procurement—to ensure the ultimate success of our innovators and entrepreneurs.

**MARK SCHAAN**
Director General, Marketplace Framework Policy Branch
Innovation, Science and Economic Development Canada

**CANADA'S NEW INTELLECTUAL PROPERTY STRATEGY – CONSULTATION RESULTS**

Budget 2017 announced the Innovation and Skills Plan, which puts in place key programs and approaches to facilitate an innovation ecosystem in Canada, where ideas and creativity are successfully commercialized and firms grow to scale with the help of their Intellectual Property (IP) assets (patents, trademarks, copyrights, industrial designs, trade secrets, etc.). A key item within this plan was a commitment that the Government will develop a new comprehensive IP strategy over the coming year. This strategy will ensure Canada’s IP regime is modern and is intended to support commercialization of Canadian innovation and creativity, foster an ecosystem that supports businesses to grow to scale, and ensure that firms have the awareness and incentive to strategically use IP to grow and compete.

Innovation, Science and Economic Development Canada sought the views of Canadians on measures that could be considered and assessed, looking for commercialization and/or growth outcomes for Canadian businesses. The public consultation on Canada’s new intellectual property strategy closed on July 17, 2017. Here’s how Canadians weighed in: bit.ly/2vYKsRo

**GUIDANCE FOR COMPANIES WHEN IT COMES TO PROTECTING IP** - PANELISTS SPEAK OUT:

- Make the investment to get expert advice about IP right at the start. Not just about patents but about how IP can be leveraged and applied as the company grows. Start with a thorough understanding of what IP is, what the different forms do, how they can be used cumulatively, and how they conflict.
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- Make sure you have the right types of IP for your innovations.
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- While focused on getting a first patent filed, also get an active continuation application to allow your company to keep moving forward and competitors at bay.
- Be careful with public disclosure of ideas. It is easy to share, and lose, an idea you are seeking to protect. Publish only once a project is commercial.
- Keep IP strategy as an ongoing part of your company’s operations to ensure continued relevance of patents to innovations and products.
- Companies need to also think strategically about standards. Try to be a first mover; if you develop a standard that that captures the features of your product, government can help embed it into the regulatory environment.

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- b) Compare these practices nationally, and with the best international practices.
- c) Identify incentives for researchers to register intellectual property.
- d) Identify incentives and practices for the private sector to identify and utilize post-secondary intellectual property.
- e) Review partnerships between colleges, universities, government and the private sector.

To date, the Committee has heard from 27 witnesses and received six briefs. They are yet to release a report or any findings.

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IP strategy is a fundamental component of Canada’s Innovation and Skills Plan—the Government is working to create an ecosystem that allows innovators to grow, to scale and create middle class jobs. A national IP strategy is embedded as part of that. In designing a new IP strategy, ISED’s marching orders are to review:

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**Industry:**
- Companies should be providing the Government with their patent IP asks now as Canada works to develop a national IP strategy. Companies need to provide specifics about their “asks,” with a goal to paving the way for permission to operate in the future.

**CANADIAN INTELLECTUAL PROPERTY OFFICE**
The Canadian Intellectual Property Office (CIPO) is a part of Innovation, Science and Economic Development Canada. CIPO is responsible for the administration and processing of the greater part of intellectual property (IP) in Canada. CIPO’s areas of activity include trademarks, patents, copyright, industrial designs and integrated circuit topographies. CIPO’s mandate is to deliver high quality and timely IP services to customers, and to increase awareness, knowledge and effective use of IP by Canadians.

Want to learn more?
bit.ly/2d37Qxw

**COMMENTS TO PROTECTING IP – PANELISTS**

Here’s how Canadians weighed in: bit.ly/2vYKsRo

**MARK SCHAAN**
Director General, Marketplace Framework Policy Branch
Innovation, Science and Economic Development Canada

Want to learn more?
bit.ly/2d37Qxw
A national intellectual property strategy would advance creation, ownership and commercialization of Canadian IP, including in the cleantech sector. This strategy should be modern, robust and ensure the interests of innovative Canadian cleantech businesses are promoted and protected in new international standards and certification programs. What needs to be done to catalyze the development of such a strategy to advance Canadian cleantech companies? What are the key elements of such a strategy? Who needs to be engaged in delivering such a strategy?

PANEL 5: National IP Strategy for Cleantech to Better Capture Wealth from our Investments

INTRODUCTION:
Current work by the Government of Canada on the development of a new IP strategy is designed to address Canada’s lagging position on intellectual property relative to other countries.

“IN RECOGNITION OF THE IMPORTANCE OF A WELL-FUNCTIONING INTELLECTUAL PROPERTY REGIME, BUDGET 2017 ANNOUNCES THE GOVERNMENT WILL DEVELOP A NEW INTELLECTUAL PROPERTY STRATEGY OVER THE COMING YEAR. THE STRATEGY WILL HELP ENSURE THAT CANADA’S INTELLECTUAL PROPERTY REGIME IS MODERN AND ROBUST AND SUPPORTS CANADIAN INNOVATIONS IN THE 21ST CENTURY.”

– Budget 2017

The development of an effective Canadian IP strategy will require engagement of other groups, and a collaborative, multi-stakeholder approach. Intelligent IP strategy will be key to advancing Canada’s cleantech players, who should actively work to assess and monitor their IP activities, engaging with government on both IP asks and potential standards.

As a country we haven’t taken IP seriously. It has never been a driver of our economic well being. “For many innovators and start-ups, IP is an afterthought, they will deal with it only when there’s a problem,” says Tawfiq. It has not been thought about strategically—and that’s on all levels. We don’t talk or think much about how IP is practiced on the ground. We don’t study IP, we don’t research it and we don’t really know how to strategically leverage it to competitive advantage.

“CANADA NEEDS NEW THINKING ABOUT IP AND WE NEED TO GET THERE QUICKLY.”

In the span of the last two or three years, we’ve seen much more discussion about IP and IP strategy. IP now warrants a paragraph in the 2017 Budget. We are in a moment where there is a growing awareness that we need to start thinking differently. The Government is now looking at IP as a priority when constructing trade agreements. We need to integrate new IP thinking into disciplinary programs, in business, in STEM (science, technology, engineering and mathematics), and even into the arts and humanities. Fresh and new ways of doing the same thing. “Standards are about choices and there are losers and winners around the table,” says Girard. We want to be first to market.

“ONCE A STANDARD IS SET, YOU HAVE TO WAIT ANOTHER FIVE YEARS BEFORE YOU CAN TINKER WITH IT.”

CENTRE FOR INTERNATIONAL GOVERNANCE AND INNOVATION

MYRA TAWFIQ
Senior Fellow, Centre for International Governance and Innovation

SOVEREIGN PATENT FUND – A SOLUTION FOR CANADA?

The notion of sovereign patent funds (SPFs)—state-backed investment vehicles that acquire IP from third parties to further national objectives—are emerging in countries like France, Japan and South Korea. SPFs work to promote the greater good, giving innovators in a specific sector the freedom to operate in countries like France, Japan and South Korea. SPFs work to promote the greater good, giving innovators in a specific sector the freedom to operate in countries like France, Japan and South Korea.

In April, 2017, the Centre for International Governance Innovation published an article, titled Why Canada needs a Sovereign Patent Fund, advocating for an SPF mechanism for Canada.

To read the full article, click here: bit.ly/2q32puzz
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SOURCE: WIPO Statistics Database and World Bank, October 2016

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When we compare the US to Canada, in the US, entrepreneurs are drilled very early on that IP is part of corporate strategy. In Canada, while we don’t resist the notion of IP, it’s not a “natural” way of doing business. “In Canada we live in a bit of a bubble when it comes to the IP ecosystem, and understanding the risk and exposure,” says Carbonneau. It’s not until Canadians look to do business in the US—whose economy, over the last hundred years, has been built on technology and backed by a strong patent system—where they encounter their first IP hurdles. In Canada, historically, IP has been an afterthought; it is now becoming more top of mind. When looking at developing our own national IP strategy, we have some good global examples to reference, in particular China, the US (with recent regulatory changes to patent protection have weakened their innovation-based economy), and Singapore, to name a few.

“THERE ARE DEFINITELY THINGS THAT WE CAN DO BY LOOKING AT WHAT OTHERS ARE DOING.”

Citing the Cycle Capital and SDTC study about the relationship between IP and investment, Carbonneau says, “In terms of patents filed, we are at approximately where we should be at 10% of that of the US and 2% of that of the world, but when you realize that 70% of those patents belong to foreign multinationals [the picture is not so good]. Companies come here, start an innovation centre, get the tax credits and then roll the benefits back to their home country. We are subsidizing the R&D of the rest of the world.”

FORGING A CLEANER AND MORE INNOVATIVE ECONOMY IN CANADA

In December 2016, Cycle Capital Management and Sustainable Development Technology Canada (SDTC), in collaboration with Ecotech Quebec, released a study titled Forging a Cleaner and More Innovative Economy in Canada. The study examined the current challenges of the financing chain to foster innovation in Canada’s cleantech sector. Amongst other things, the study benchmarked Canadian cleantech against US cleantech and identified strengths and weaknesses in relative economic terms.

To download the full study, click here: bit.ly/2wN2YKG

WHAT IS A PATENT?

Whether you develop new technology or improve well-known products or processes, you’ll likely need a patent. Patents apply to newly developed technology as well as improvements on products or processes. Patents provide a time-limited, legally protected, exclusive right to make, use and sell an invention. In this way, patents serve as a reward for ingenuity. Want to learn more? bit.ly/2gQzQVhtml

WHAT IS A TRADE SECRET?

Trade secrets include any valuable business information that derives its value from the secrecy. Trade secrets can be very valuable to you whether you have developed new technology, designed original products, created the perfect recipe, or have a gold mine of customer data. One of the most famous trade secrets is the Coca Cola formula—a well-guarded secret for over 100 years. The business value of the formula is why the company goes to extremes to keep it confidential. Want to learn more? bit.ly/2qArIsSU

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“IS THERE IP THAT YOU CAN CREATE THAT WILL PREVENT YOUR COMPETITORS FROM MOVING FORWARD?”

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