



Parliamentary Quarterly

Budget 2012 – Seize the Opportunity to Grow Canada’s Bio-economy

The bio-economy in Canada represents an employment network of more than 1 million jobs in Canada. The bio-economy comprises \$87 billion of our nation’s gross domestic product and has a tangible footprint in every province *throughout* the country. The bio-economy brings increased economic growth, high skilled jobs, more effective health care spending, improved productivity, and globally competitive leadership in research commercialization.

Canada can build prosperity through the bio-economy by helping to generate capital for Canadian operations, balancing incentives for investments and investing in measures to save health care spending. The marketplace estimates there are an excess of \$5 billion of funds geared to the biotechnology industry internationally. We need to constantly improve our globally competitive advantage by offering incentives for international firms to grow and contribute to a Canadian way of life. The Scientific Research and Experimental Development tax credit program is valuable to our small biotech company members. This allows us to keep research and development work in constituencies across Canada.

From resource management to new manufacturing technologies, from new medicines to healthier foods, from renewable energy sources to cleaner chemical production, biotechnology is driving vast levels of innovation into all elements of the Canadian economy. Bio-diesel and engine oils made from oilseed crops, biological therapies for Alzheimer’s and cancer, ethanol, new plastic composites from agricultural sources, trans fat-free cooking oil, renewable biomass energy sources — all showcase the vast range of applications biotechnology offers the job creation demands of today and for years to come. The bio-economy is material and growing.



Canadian Biotechnology Leaders Championing Treatments for Rare Diseases

All Canadians Deserve Care

Rare Disease Day - February 29, 2012

Building a sustainable future for Canada’s bio-economy includes ensuring the collective health of all Canadians while supporting made in Canada solutions for novel therapies. As a recognized global leader in biotechnology, Canada must enable access for all to safe and effective treatments.

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All Canadians Deserve Care

Canada is the only developed country in the world without a federal healthcare policy for persons with rare disorders. The United States created a policy 27 years ago. It is time to even the imbalance, with one in 12 Canadians suffering from rare diseases, Canada is being urged to create a policy encouraging research, and providing funding for existing therapies. This policy could be incorporated into the updated Food and Drugs Act to include an internationally recognized definition of orphan diseases and specific market incentives for companies in this space.

Montreal's Enobia Pharma is one such company, which recently announced an agreement to collaborate with Alexion Pharmaceuticals on the development of therapies to treat patients with ultra-rare and life-threatening genetic metabolic disorders. Enobia's lead product candidate is an enzyme-replacement therapy for patients suffering with hypophosphatasia, for which there are no approved treatment options.

"Enobia and our scientific collaborators have developed an elegant compound showing very promising clinical results to date," said Dr. Robert Heft, President and Chief Executive Officer of Enobia.

Biotechnology therapeutics offer new hope in treating rare disorders for Canadians. Due to the genetic nature of these conditions, scientists can identify specific variations in genes or cells linked to a condition. These biomarkers can be used to identify people with a particular disease, or those at risk of developing a disease. This insight helps guide the development of treatments.

Why does Canada's Biotech Sector Support the Comprehensive Economic and Trade Agreement (CETA)?



Countries around the world are racing to seize the economic opportunities being unleashed by the biological and genomic science revolutions. Canadian companies and research institutions are making new discoveries and advancing innovative therapies every day which have and will continue make a difference for patients around the world who suffer from devastating conditions such as brain cancer, bone disease, lymphoma and cardiovascular disease. New therapies and vaccines not only reduce costly hospital and surgical care in many cases, they also allow patients to remain productive members of society and our workforce.

These groundbreaking discoveries have been a result of sustained investment in research and support for commercialization through programs such as the SR&ED tax credit. In order to ensure our investments in the health sciences translate into economic benefits to the Canadian economy now and into the future, Canada must also ensure we have a competitive IP environment at home for our domestic innovations to thrive once they reach the marketplace.

Within the context of the CETA negotiations, we encourage the Government of Canada to support proposals, which raise our intellectual property for new therapeutic health innovations to at least the level of the European Union.

- Canada's biotechnology industry has long supported a 10-year term of data protection for new innovative biologics.
- We also believe an equitable and effective right of appeal for innovative companies in patent linkage actions before the Federal Court reflects our national sense of fair play.
- Canada should join our trading partners and establish a patent term restoration system to reward innovators who bring new therapeutic products to Canadian patients.

In the highly competitive global, knowledge based economy, intellectual property, human resources, and capital flow easily around the globe. If we are to capture the economic benefits of the biotech revolution to secure Canada's continued economic recovery, we must provide globally competitive intellectual property policy to Canada's biotech entrepreneurs. We hope the final agreement will set Canada's biotechnology industry on equal footing with our European partners.



Extraordinary Vaccine News - Strictly Canadian



Canadian science and research capabilities have long been touted as the best in the world. Vaccines present solutions to increased healthcare costs and improved health outcomes for Canadians. In the last 50 years, immunization has saved more lives in Canada than any other health intervention and is widely recognized as among the best investments in health. New, exciting vaccines on the market and near-term horizon include ones protecting against: meningitis, pneumonia, rotavirus-caused diarrhea, herpes, Hepatitis C, malaria, AIDS, pulmonary tuberculosis, cancers, and degenerative diseases (Alzheimer's). We need to continue supporting these remarkable Canadian scientists who are pushing the boundaries of conventional medicine. Together we benefit from their discoveries.

Canadian Researcher Gets FDA Approval for HIV Vaccine Trial

The FDA has granted **University of Western Ontario** researchers approval to start human trials of their HIV vaccine. This is a significant milestone for the vaccine, which has the potential to save millions of lives around the world by preventing HIV infection. Dr. Chil-Yong Kang is confident his approach could be the key to cracking the tricky HIV virus code. Kang's method is similar to that used for polio, rabies, flu and other vaccines. Stay tuned for development on this fascinating journey of discovery.

Life-sciences Research Abounds with an Ovarian Cancer Vaccine

Canadian researchers believe they are near to developing a vaccine for ovarian cancer, the most severe of gynecological cancers. Brad Nelson, a molecular and cellular biologist and project leader of the research at the **B.C. Cancer Agency's Deeley Research Centre**, said the team believes it is three to five years away from clinical trials of a vaccine. Nelson said the planned vaccine would be personalized by creating a DNA profile of the patient's tumours. We will continue to inform you of exciting developments, as these targeted vaccines become reality.



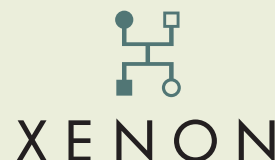
Meet Our Industry Leaders

We want to take this opportunity to highlight biotechnology leadership across the country. These entrepreneurs excel with spectacular science as a foundation. They are attracting investment, collaborating internationally, and developing new technologies to share with future generations at home and abroad.

Vancouver based **Xenon** is researching genetic-based drug discovery. They are engaged in developing more effective therapies for common diseases such as cardiovascular disease, diabetes and obesity. Recently they announced a collaboration deal in excess of \$646 million with **Genentech**. Together these partners will discover and develop on the discovery of new therapeutic approaches for treating pain. "We are delighted to be collaborating with Genentech," said Dr. Simon Pimstone, President and CEO of Xenon. "Genentech is among the world's leading biotech companies and an ideal strategic partner for Xenon as we share a common emphasis on using human genetics for drug development." This meeting of the minds allows Xenon to both deepen and broaden their pipeline of novel medicines for rare diseases.

CO₂ Solutions in Quebec City, with 22 full time employees has risen to the challenge of reducing climate change. They have developed a patented biotechnology innovation for the efficient capture of enzymatic carbon dioxide (CO₂) capture. CO₂ Solutions' technology is presently entering pilot scale testing supported by major industrial partners. This includes a pilot development and testing program with Alcoa, Inc., the world's largest producer of aluminum. The company is committed to commercializing its technology in the context of its important domestic and export potential.

Inspired by nature, the technology is based on the industrial application of a powerful enzyme that manages CO₂ in living organisms. This enzymatic technology platform dramatically improves the capture of CO₂ from effluent gases, resulting in a 30-40% cost savings versus conventional technology. In this regard, applying the technology to reduce Canada's greenhouse gas emissions saves industry up to \$1 billion per year in regulatory compliance costs.



Bringing Innovative Alzheimer's Therapies to Market

Allon Therapeutics Inc. is a clinical-stage biotechnology company who has developed a team with consistent track record of execution and achievement. Allon's lead drug davunetide, is proceeding in a pivotal clinical trial in an orphan indication, progressive supranuclear palsy (PSP), with the FDA. Allon received Orphan drug designation for davunetide in the United States and the European Union, the world's two largest pharmaceutical markets. In addition to providing critical data, the results will also define the opportunity in other tau-related diseases, such as Alzheimer's, schizophrenia, Parkinson's and several types of front temporal dementia. Recently, Allon completed an Equity Offering, raising \$5.4 million. Allon was invited and presented at two prestigious conferences: the Piper Jaffray Healthcare Conference and the Windhover Therapeutics Area Partnership conference as one of the "Top 10" not yet partnered neuroscience programs in the world. The company also strengthened its intellectual property portfolio with an additional U.S. patent granted for using davunetide as a treatment for laser induced retinal damage. To learn more visit www.allontherapeutics.com

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