

# Developing a National Bioeconomy Strategy

## Issue

Canada is the only country in the developed world without a federally-led long term strategy or policy on economic growth through the bioeconomy. The USA, European Union, Australia, Malaysia, Japan and other nations have strong strategies developed in concert with industry and endorsed and approved by their leadership. For the 21st Century, Canada needs a blueprint for the bioeconomy that can lead the country to strong economic development, creating new businesses, high quality long term jobs, and clusters with stable growth.

## Background

Many industries, including health, agriculture, food, forestry and natural resources, as well as rural and urban communities stand to benefit from the development of new bio-based products and services that use renewable resources derived from terrestrial and marine sources of biomass and associated waste streams as their feedstock. These produce a wide range of products, such as bio-fuels, biomaterials, bio-chemicals, natural health products, and pharmaceuticals, while minimizing impact on the environment. It involves all processes including invention, development, production and use. The net result of a strategy focused on the bioeconomy will be the creation of new businesses; revitalization of old businesses and jobs for Canadians.

Canada's economic future depends on the country becoming a global player in the bioeconomy. In 2008, the United States' biobased economy - measured in GDP on a per capita basis - was over 60% more developed than Canada's, upwards of \$1.25 trillion dollars, or 8.45% of GDP. Compare that to Canada's biobased economy valued at \$78.3 billion dollars, equivalent to 6.4% of GDP.<sup>1</sup> In addition Canada's food and beverage industry is valued in the range of \$125 billion annually.

Recognizing this, the Government of Canada created a \$500 million NextGen Biofuels Fund<sup>TM</sup> in 2007 to encourage the private sector to increase production and commercialization of biofuels. Natural Resources Canada is partnering with industry, research institutes and the financial sector to lead Canada's forest industry into the bioeconomy through the Bio-pathways Project. In recent months the federal government has established the Canada First Excellence Research Fund with agri-food considered to be a priority area.

Some communities have grasped the bioeconomy and are building their future. Examples are:

- Sarnia, Ontario - bio-based chemistry cluster
- Drayton Valley, Alberta - biomaterials and bioproducts cluster
- Saskatoon, Saskatchewan - agri-food bioscience cluster
- Charlottetown, Prince Edward Island - bioactives for health cluster

Sarnia, Ontario's focus on bio-based chemicals to build a hybrid chemistry cluster has been happening without a national policy, but is also a good example of what could be developed even faster with a national strategy in place and the proper support. Ten years of effort in Sarnia is now seeing the benefits of a long-term strategy with the recent attraction of BioAmber, which will open a US \$125-million biosuccinic acid manufacturing facility in the city, creating 60 permanent jobs.

Despite these efforts by the Government and communities, Canada lacks a national bioeconomy and innovation strategy. Communities that are looking to develop their own unique clusters need support and direction through appropriate programs to foster the partnerships.

---

<sup>1</sup> Measuring the biobased economy: A Canadian perspective, William Pellerin and D. Wayne Taylor; INDUSTRIAL BIOTECHNOLOGY WINTER 2008, page 363-366

To quote US President Barack Obama on the importance of fostering partnerships, as stated in his administration's National Bioeconomy Blueprint, February 2011:

"We're all familiar with clusters like Silicon Valley. When you get a group of people together and industries together, and institutions like universities together around particular industries, then the synergies that develop from all those different facets coming together can make the whole greater than the sum of all its parts."

### **Recommendations**

That the federal government:

1. Develop a national bioeconomy strategy that builds from the best existing models with appropriate support, federally and provincially
2. Recognize that universities, colleges and federal laboratories play a vital role in building a long term bioeconomy and provide them support for discovery research.
3. Provide appropriate support to attract new businesses in the bioeconomy to Canada including the development of bioeconomy clusters throughout Canada.