BIOCAP
CANADA

Conference Overview

BIOCAP Conference 2006

Towards a Sustainable Bioeconomy:
Biosphere solutions for energy and the environment

October 31 and November 1, 2006
Ottawa, Ontario

Conference Overview
An Executive Summary

On October 31 and November 1, 2006, BIOCAP Canada hosted *Towards a Sustainable Bioeconomy: Biosphere solutions for energy and the environment.* This two-day national forum brought 375 people to Ottawa to discuss and assess the science, policy and socioeconomic issues related to Canada's transition to a sustainable bioeconomy. The delegation, which included representatives from Industry, Federal and Provincial Governments, Non-Governmental Organizations, Environmental Organizations, and Academia, took in presentations from nearly 80 speakers, as well as a scientific poster session and a tradeshow exhibition, which was officially opened by M.P. Daryl Kramp.

Purpose

The conference was designed to build awareness and understanding of the opportunities that a bioeconomy offers Canada, identify and discuss the policies, tools and technologies that will enable such a transition and highlight some of the success stories both within Canada and abroad. By creating a national forum, BIOCAP promoted the communication of policy concepts and research progress in the areas of biosphere carbon sinks and emission reductions, biomass energy production systems, North American energy security, rural economic development and biosphere adaptation to climate change. In addition, the BIOCAP conference was designed to facilitate the development of linkages between researchers, policy makers and business communities.

David Layzell, BIOCAP President & CEO addressing the delegation

Outcomes

The speakers and delegates were united by the almost universal recognition that Canada's abundance of forests and farmlands provide us with a unique "Green Advantage" for addressing issues of energy security, environmental health and the rural economy. But the enthusiasm linked to an appreciation of bioeconomy opportunities was balanced by serious discussions relating to the economic and environmental sustainability of using Canada's resources for new market opportunities, and the learnings shared by international leaders who have already achieved early milestones. Outcomes from the conference fall within the three main categories of *Opportunities*, *Challenges* and *Moving Forward*, and are summarized as follows:


M.P. Daryl Kramp, greeted by David Layzell (L) and Board Chair, Bob Page, VP Sustainable Development TransAlta Corp. (R)

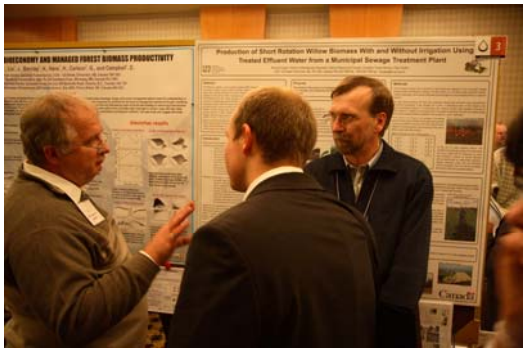
Opportunities

- Like other developed nations, Canada faces challenges related to energy security, environmental stewardship over air, water and soil health and rural economic sustainability. Canada's vast biological resources from forests and farmlands confer a large per capita opportunity to meet a substantial proportion of energy demand; there was overwhelming general acceptance of the concept of using biological resources to address current and future challenges associated with climate change and clean energy.
- Other countries have set substantive biomass and bioenergy production targets; Canada could sustainably meet a proposed 2 EJ/yr energy target from biomass by 2030, without compromising current food, feed or fibre production.
- Canada is a leader in appropriate technology development from genetic selection of optimized crop cultivars, to conversion of woody materials to high value commodities through a forest biorefinery, to advanced gasification, pyrolysis or microbial conversion technologies. Technologies range from experimental to fully mature, with many at the pre-commercial development stage.
- There is growing momentum among policy-makers to recognize the economic and development opportunities offered by the bioeconomy, and to explore and advance appropriate new market mechanisms.

Questions from the delegation

Challenges

- Detailed regional analyses of biomass resources are needed and these should be linked to market development opportunities. While new analysis tools have been developed, many require ground-truthing.
- The lack of a national emissions trading system in Canada is a barrier to the implementation of beneficial management practices for generating biosphere carbon sinks or emission reductions.
- Transportation of raw biomass or bioenergy products may need to occur over long distances, and optimal strategies to address this challenge must be addressed. The role of long-distance shipping by rail, carrier ship through the Great Lakes, or by pipeline must be explored.
- Policies that regulate the production, transport or use of biomass must be reviewed and wherever possible streamlined to facilitate new demands.
- New markets for biomass have wide-ranging intended and unintended implications which must be analyzed and monitored during implementation. Of immediate concern is the need to balance return along the value chain to ensure equity between the primary producer and downstream applications.
- Creating new markets for traditionally lower-value biomass commodities may increase pressure on productive lands and forests, thus heightening the need for environmental stewardship. New or specific measures of environmental impacts may need to be developed
- Fluctuations in biomass availability may occur as a result of natural disasters, and climate change impacts. Strategies to optimize available regional biomass resources need to be developed.



Researchers presenting at the Scientific Poster Session

Moving Forward


Delegates and panelists interacting after a session

- An integrated systems approach should be implemented to guide the development of a sustainable bioeconomy. A challenge of this magnitude and complexity demands strong and coordinated Federal and Provincial government leadership.
- Integrated national policies and programs are needed regarding an emissions trading system, including how initiatives will be scientifically verified.
- Target setting has proven to be a useful tool for other countries, whether it is "top-down", as with the US Billion Ton Vision by 2030, or "bottom up" as with the US 25 X '25 initiative. Targets must be based on credible science and well-defined parameters if they are to have optimal domestic impact resulting in minimal imports of cheap feedstocks.
- Optimal results will be achieved by capitalizing on regional opportunities, so local partnerships between industry, government and academic leaders are essential.
- There was enthusiastic support for the building of a 'network of research networks' to ensure a broad understanding of the natural, applied and social science issues and to facilitate the transfer of insights and technologies among disciplines and sectors.
- Considerable R&D investment to develop the necessary insights and technologies are needed to guide policy and investment decisions by government and industry. However, there are a number of off-the-shelf options that could provide immediate opportunities.

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