



The Canadian Bioeconomy

Bioproducts represent an opportunity to strengthen and diversify the agricultural sector, transforming agricultural crops and wastes into high value products, developing new crops, adding revenue streams for farmers, and improving environmental sustainability. The bioproducts sector enhances the competitiveness of Canadian farmers and creates jobs across the Canadian economy in research and development (R&D), agriculture and value-added manufacturing. A few Canadian examples include:

- Transforming hemp and flax fibre into biomaterials for the automotive and construction industry;
- Using crop residues to produce bio-based chemicals for household cleaning products;
- Powering local communities using agricultural waste for bioenergy; and
- Converting crop oils into biofuels to power road transportation vehicles.

Agriculture and Agri-Food Canada's Initiatives

The Canadian bioeconomy is filled with economic opportunity. Agriculture and Agri-Food Canada (AAFC) helps to advance Canada's position in a vibrant and profitable bioeconomy through partnerships, research and programming.

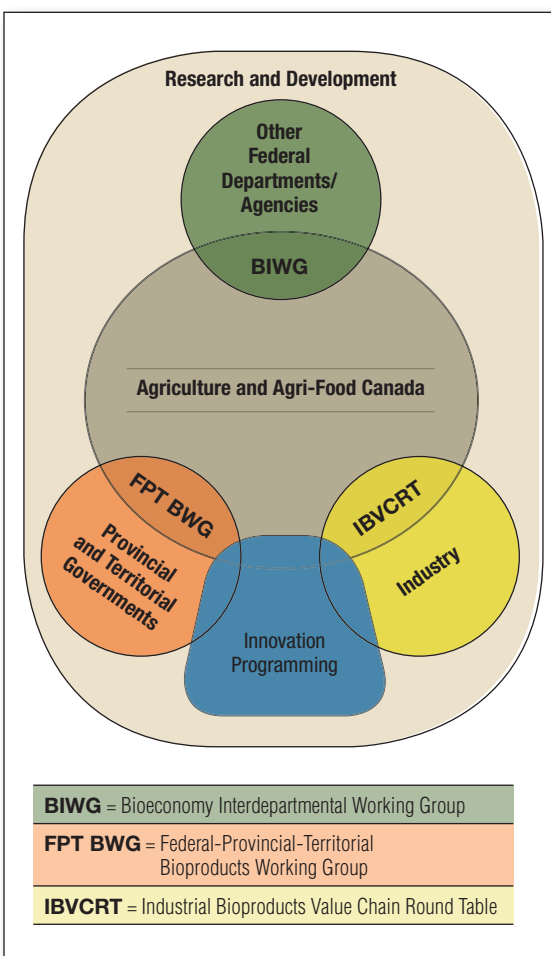
Partnerships

AAFC has established working groups to bring key players together to seize opportunities and address challenges affecting the bioproduct sector's development:

- 1) Bioeconomy Interdepartmental Working Group (BIWG): Brings together federal departments and agencies to improve coordination and highlight opportunities for collaboration;
- 2) Federal-Provincial-Territorial (FPT) Bioproducts Working Group: Explores potential benefits and key challenges facing the bioproducts sector both federally and provincially;
- 3) Industrial Bioproducts Value Chain Round Table (IBVCRT): An industry-led forum that brings together industry representatives with federal and provincial governments to discuss matters of common interest for the sector.

Research

AAFC has a network of locations and scientific infrastructure that spans 19 centres across the country. This gives AAFC a national presence and well positions AAFC to assist the agri-based industry in capitalizing on emerging crop and livestock biomass opportunities. AAFC's research creates sector value by developing attribute-specific feedstocks for use in the manufacturing of value-added bioproducts. It integrates agronomic and environmental science and expertise, enabling the department to approach the productivity/sustainability challenge in a holistic manner and to provide a more coordinated interface with industry and other stakeholders.



Programs

Canadian Agricultural Adaptation Program (CAAP):	<ul style="list-style-type: none"> Provides non-repayable contributions for industry-led projects that help the agriculture, agri-food, and agri-based products sector to adapt and remain competitive.
AgrInnovation Program:	<ul style="list-style-type: none"> Supports research and development and reduces financial risks of innovation including through: <ul style="list-style-type: none"> Industry-Led R&D Stream Enabling Commercialization and Adoption Stream

Successes

AAFC has provided support to help:

- Launch Canada's first national Bioproducts Cluster to help bridge the gap between research and market-ready products;
- Develop varieties of Camelina sativa to produce bio-lubricants;
- Develop North America's first agriculture fiber grading centre of excellence program;
- Build the world's largest commercial plant for producing bio-based succinic acid – a key building block chemical used by a wide variety of manufacturing industries.

Bioeconomy Drivers

- Additional revenue source for farmers
- New use for materials once considered 'waste'
- Renewable resources, and volatile fossil fuel prices
- Reducing greenhouse gas emissions
- Consumer demand for environmentally friendlier products

The Canadian Bioeconomy*



**Over 200 Canadian firms
producing and/or
developing bioproducts**



**Over 3,000 people employed:
54% were production workers
or operators; and 27% were
in R&D, engineering or
lab technicians**



**27 million metric tonnes
of total biomass produced
(11 million metric tonnes
of agricultural biomass)**

**Agricultural biomass is
used by 42% of bioproduct
firms in Canada**



**\$1.3 billion in
bioproduct sales**

**\$433 million of total sales
was exports of bioproducts**

*Bioproducts Survey, Statistics Canada, 2009

For more information, please visit www.agr.gc.ca/bioproducts