The Canadian Forest Service & Canada’s Forest Sector

Rising to the Opportunity of the Bioeconomy

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Natural Resources Canada
Canada’s forests

9% of the world’s forests (24% of the boreal)

35% of Canada is forested. About 90% owned by provinces

Removed 20 Mt CO2e in 2016

300 communities reliant on forests

Sources: National Forest Inventory; State of Forest Report

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Canada’s forests cover more than 5 times the area of France but most of it is not commercially managed.

Less than 1% of Canada's forests are harvested each year (~3 times the area of Luxembourg)
Lumber and pulp remain the foundation of the forest sector, but non-traditional forest products are growing in importance.

**Exports of Canadian Forest Products (2017)**

- **29%** Softwood lumber
- **23%** Wood pulp
- **6%** Printing and writing paper
- **6%** Newsprint
- **29%** Other (includes over 400 categories of products)
- **7%** Structural wood panels

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Sustainable Forest Management

Canadian Certification in the Global Context

2017 Year-end

Millions of hectares certified

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<tr>
<th>Country</th>
<th>Certifications</th>
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<tr>
<td>Canada</td>
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<td>Russia</td>
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<td>France</td>
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<td>Norway</td>
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Net Total for Canada (Double counting of areas certified to more than one standard has been removed).

Source: www.certificationcanada.org as of Dec 31, 2017
A new business environment for the forest sector

- Structural shifts
- Challenges to overcome
- New opportunities

Forest Sector Employment


- 316,850 employees in 2005
- 209,940 employees in 2017

- 6% of forest sector employees are Indigenous

Newsprint Exports


- 7.3 million tonnes in 2005
- 3.1 million tonnes in 2017
The Canadian Forest Service (CFS)

The Dominion Forest service was established in 1899 - now part of Natural Resources Canada - a science-based economic department.

The CFS is a national network of regional centres, built on over a century of science, working to advance your issues.

Our priorities: science to support forest health and sustainability; innovation; creating jobs; expanding markets; addressing trade disputes.
Supporting the forest bioeconomy across the supply chain from fibre baskets to markets

- Basic research
  - Fibre Solutions (Canadian Wood Fibre Centre)
  - Canadian Wildland Fire Strategy
- Applied R&D
  - Forest Innovation Program - FPInnovations
  - Investments in Forest Industry Transformation
  - Clean Growth Program
  - Strategic Innovation Fund
- Demonstration
  - Indigenous Forestry Initiative
- Solution Deployment
  - Expanding Market Opportunities (EMO) Program
  - Codes and Standards (lignin, cellulose nanocrystals, tall wood construction)
  - Policy procurement influence (Bioplastic challenge)
- Commercialization
  - Green Construction through Wood
  - Clean Energy for Remote and Rural Communities (Bio-Heat)
  - Forest Bioeconomy Framework for Canada

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Forest bioeconomy: a growing opportunity

- Increases competitiveness, efficiency, value-added for forest products
- Provides rural development opportunities and jobs
- Provides low- or no-waste alternatives for non-renewable resources, including fossil fuels
- Accelerates Canada’s transition to a clean energy future
- Reduces GHG emissions and fights climate change
- Can it reconcile tension between ecosystem conservation & jobs through intensification?

Bioeconomy includes economic activities based on living systems and the conversion of biomass.
Bioeconomy-related Government of Canada initiatives

- Clean Tech Platforms
- Innovation (& Inclusion)
- Greening Government Operations
- Clean Fuel Standard
- Pan Canadian Framework
Accelerating bioeconomy deployment internationally

Flexible multilateral mechanism where global partners act on common thematic challenges in research and innovation, and policy alignment related to the bioeconomy.

Second Plenary May 27 & 28, 2019 Vancouver
Results to date

• Mature innovation ecosystem
  • R&D of new products and new technologies, nanocellulose research cluster

• Commercializing innovative products and systems, and development of standards (ISO, CSA) for new bioproducts

• Growth of low-carbon construction
  • tall wood buildings, low-rise residential and non residential, revisions to the National Building Code (2020), and infrastructure (bridges)

• Growth in biomass use
  • transition to low-carbon fuel, forest biomass to reduce reliance on diesel, Clean Fuel Standard regulations

• Growing Indigenous participation in forest sector
What is next?
A federal, provincial, and territorial commitment

- Forest Bioeconomy Framework for Canada

Canada will be a global leader in the use of sustainable forest biomass as part of the transition to a low carbon economy.

CCFM Forest Bioeconomy Framework for Canada (2017)
Full potential of forest bioeconomy not yet realized

- Regulatory and policy environment
- Progressing along the innovation chain
  - Complex biomass supply chains
  - Changing business models
  - Developing economic metrics
- Complex GHG accounting to measure bioproducts and bioenergy benefits
Positioning For 2030 and beyond: Investing In The Forest Sector Of The Future

**Circular economy and reducing waste**
- Make more with less, including higher value-added
- Reduce waste through design, using durable materials, and recycling
- Support recovery businesses
- Pursue opportunities in international trade

**Climate Change**
- Maximize forest and forest product carbon storage potential
- Invest in knowledge and tools to increase adaptation and resilience
- Fire Smart Communities
- Large-scale deployment of low-carbon solutions
- Foster private sector investments and technology adoption

**Biodiversity and ecosystems**
- Invest in prevention and detection tools for invasive species
- Encourage landscape-level resource development
- Foster citizen engagement and awareness

**Indigenous reconciliation**
- Co-develop strategies with Indigenous partners
- Raise internal awareness and provide training
- Facilitate inclusion of Indigenous knowledge across CFS
- Build trust through continuous engagement

**Big data, technology and automation**
- Promote open data
- Support autonomous vehicles and automation like LiDAR
- Support re-training for clean tech and other high-skilled jobs

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Thank you!

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Canada
Forest products in the bioeconomy value chain