



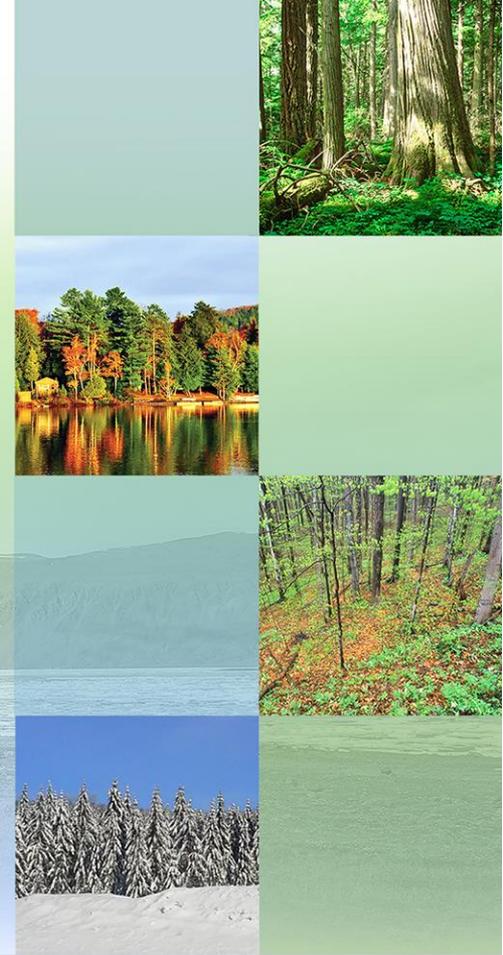
Natural Resources  
Canada

Ressources naturelles  
Canada

# Canada's 9%: Innovating and Adding Value to our Forest Biomass

*Scaling Up  
November 5<sup>th</sup>, 2019*

*Beth MacNeil, Assistant Deputy Minister, Canadian Forest Service*



# Canada's forests advantage



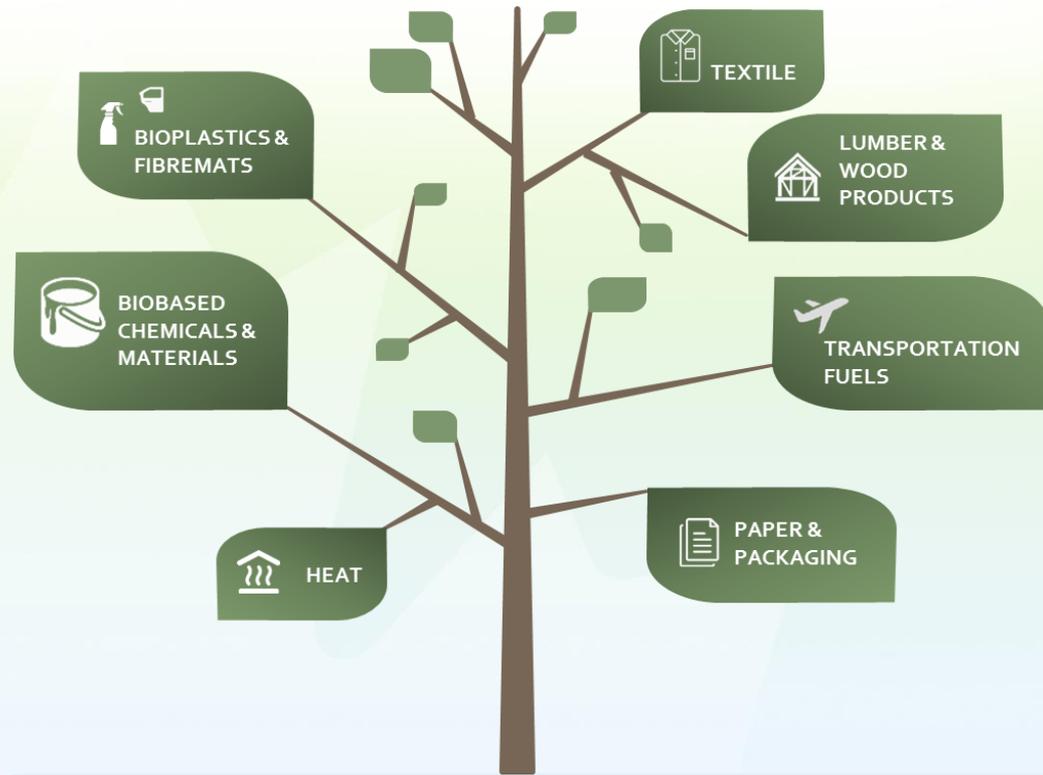
Source: National Forest Inventory

- 347M hectares, 9% of the world's forests
- 49% of total forest cover in Canada are certified sustainably manages , which represents 36% of the world's total
- <1% of Canada's forests are harvested each year
- 9% of the world's forest product trade
- 300 communities reliant on forests
- 20Mt CO<sub>2</sub>e removed by managed forests and products

# 2016 - Forests and the bioeconomy: a basis for a sustainable economy at our finger tips

*“The Canadian forest industry has transformed itself into one of the most innovative parts of our economy.”*

*The Honourable James Carr,  
Minister of Natural Resources,  
2016*



Bioeconomy includes economic activities based on living systems and the conversion of biomass

# 2017 - A federal, provincial, and territorial commitment - *Forest Bioeconomy Framework for Canada*

A 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)*



Communities



Supply

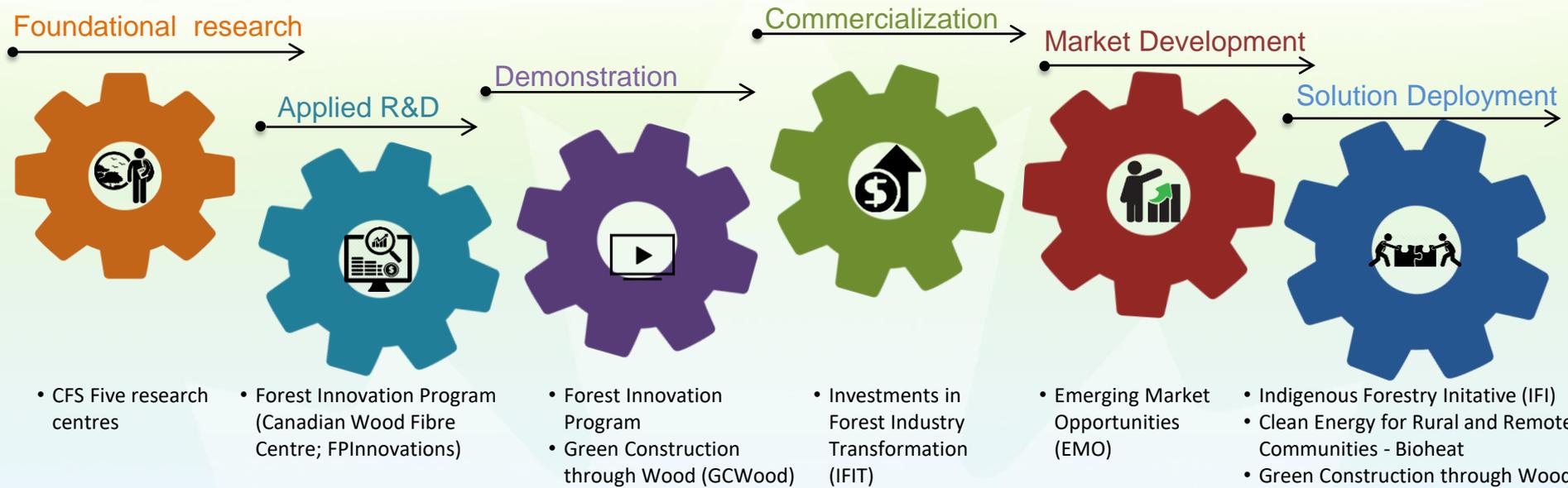


Demand



Innovation

# NRCan-CFS continued support to the forest sector supply chain: from foundational research to solution deployment



- CFS Five research centres

- Forest Innovation Program (Canadian Wood Fibre Centre; FPInnovations)

- Forest Innovation Program
- Green Construction through Wood (GCWood)

- Investments in Forest Industry Transformation (IFIT)

- Emerging Market Opportunities (EMO)

- Indigenous Forestry Initiative (IFI)
- Clean Energy for Rural and Remote Communities - Bioheat
- Green Construction through Wood (GCWood)
- Compostable plastic and biofoam challenges



# 2018-19 - Forest Bioeconomy: Recognized as a source of solutions for Government of Canada initiatives

## Funding Platforms for Clean Growth

- Low Carbon Economy Fund
- Sustainable Technology Development Canada Fund
- Green Infrastructure
- Strategic Innovation Fund
- Green Construction through Wood



## Energy Transition

- Carbon Pricing
- Clean Fuel Standard
- Clean Energy for Rural and Remote Communities



## Inclusive Growth

- Indigenous Forestry Initiative
- Forêt en valeur (Quebec and Labrador)



## Greening Government Operations

- Innovative Solutions Canada (e.g. Compostable Bioplastic Challenge)
- Greening Government Strategy (e.g. zero emissions vehicles and clean energy)



Looking ahead: Transforming challenges into opportunities

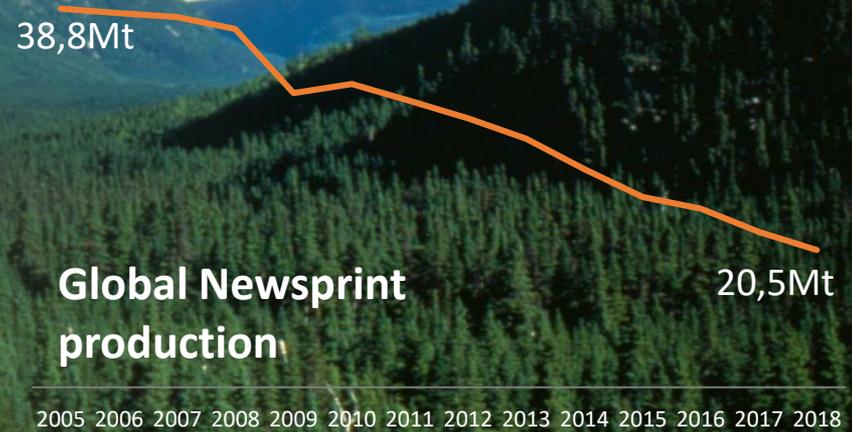
# A new business environment for the forest sector

- Structural shifts
- Changing trade context
- Growing fibre supply challenge



## Global Packaging production

2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018



## Global Newsprint production

2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018

## 2020 - onward: Improve competitiveness with bioeconomy investments

Bioeconomy represents key diversification and value-added opportunities

- To address fibre supply challenges,
- To create new revenue streams
- To generate more value
- To expand markets and decrease trade vulnerabilities

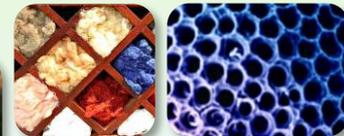
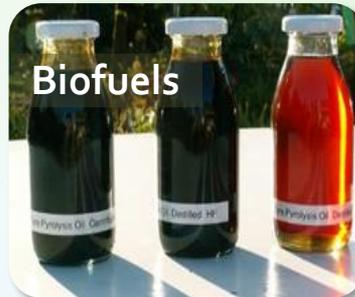
Biomaterials



Biocomposites



Biofuels



Biochemicals



# 2020 - onward: seize new opportunities with the circular bioeconomy

- Increase material efficiency in forest sector
- Provide low- or no-waste alternatives for non-renewable resources, including fossil fuels
- Accelerate Canada's transition to a clean energy future
- Reduces GHG emissions and fight climate change

	Current	Future	Market Size
Foam Cups			\$1 Billion
Plastic Cups			\$1 Billion
Foam Containers			\$1 Billion
Beverage Packaging			\$1 Billion
CPET Trays and Bowls			\$500 Million
Stand-up Pouches			\$250 Million

Graphic Packaging International Investor Day  
Presentation (September 2019), RBC Capital Markets

# Forest sector competitiveness programs 2020 launch

## Foundational Research

5 research centres

## Applied R&D

FIP (CWFC, FPIInnovations)

## Demonstration

GCWood, FIP

## Commercialization

IFIT

## Market Development

EMO

## Solution Deployment

IFI, CERRC – Bioheat, GCWood, Plastic Challenges



Investments in Forest Industry Transformation Program



Expanding Market Opportunities

# Thank you!

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