

Supplementary Material: S2. Interview Guide

Natural Resources Canada (NRCan) thanks you for participating to this interview on forest products and the circular economy. Your contribution is important to the collection of knowledge on the forest sector and its role in the transition towards more circular production and consumption models.

Information collected for this study will only be used for research purposes. No personal information is included and data will be handled in a strictly confidential manner. All publications based on interviews held as part of this study will present aggregated results and will not allow the identification of individual answers.

Background

Over the last years, the Government of Canada has paid more attention to the transition to a circular economy, as illustrated by the launch of the Ocean Plastics Charter during its G7 Presidency in 2018. Beyond plastic waste management, the circular economy concerns all sectors, including the forest sector, and can contribute to achieving several environmental objectives, including greenhouse gas emissions reductions.

Goal

The main goal of the interviews is to get the opinion of eco-design, waste management, circular economy or forest product experts on the capacity of the forest sector to benefit from opportunities associated with the transition to a circular economy. More specifically, we seek to understand if certain first transformation products, including their use to manufacture other products, are compatible with the main circular economy strategies proposed to date (see following page).

Forest products included in the study

Two categories of forest products are included in the present study: construction materials and packaging. The interview will be both on products from the first transformation of wood fibre and their use to assemble other products. Products and assemblies are listed in the table below.

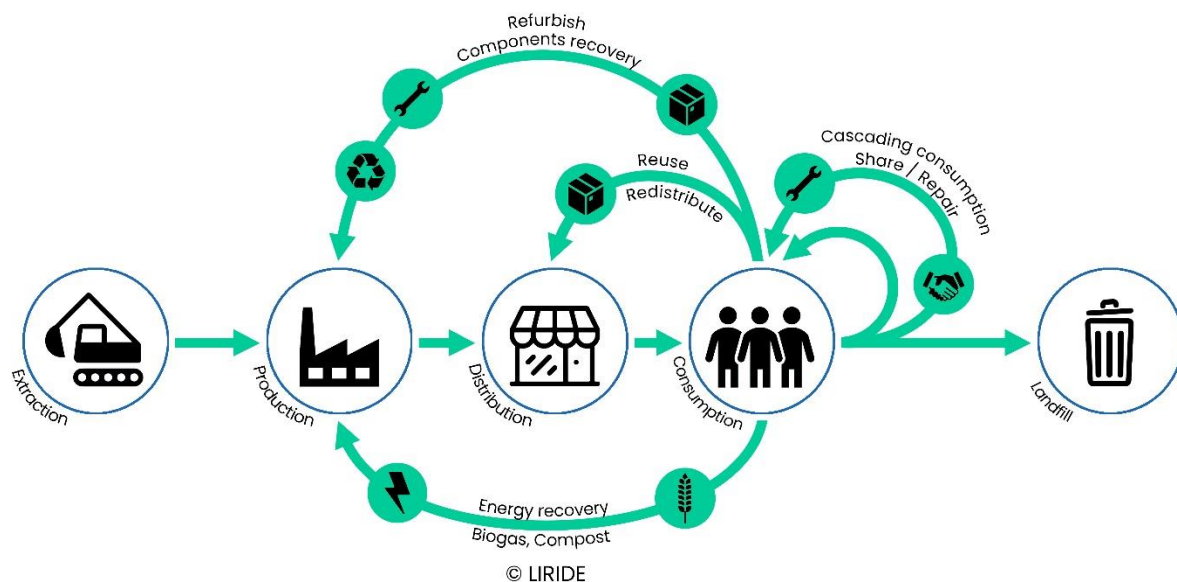
Construction materials	Packaging
Product : lumber Assembly : home interior wall	Product: packaging cardboard Assembly: corrugated cardboard box
Product: particleboard Assembly: cabinet	Product: chemi-thermomechanical pulp Assembly: food packaging

Summary product sheets for each product are attached to the interview guide. These sheets hold information that can help you answer the questions on the following pages.

Chosen circular economy strategies

The main circular economy strategies we seek to cover during the interview are the following:

- **Reduce resource consumption**, for example, by optimizing manufacturing operations to reduce the use of inputs or by reducing the quantity of product used to deliver a given functionality.
- **Extend the life of products and components**, for example, by facilitating maintenance, repair and refurbishment or by favoring selling the use of products as services instead of selling products directly to consumers.
- **Reuse**, consisting of the repeated use of a product without modification to its appearance or properties.
- **Recycling**, consisting of using recovered material in a manufacturing process as a substitute for virgin material.
- **Energy recovery**, through thermal treatment processes, such as incineration with energy recovery, combustion in industrial boilers, pyrolysis or gasification.



Questions

1. Products and assemblies considered for the interview

1.1. Do you want to discuss how circular economy strategies apply to construction materials or packaging, or both product categories?

2. Lumber

2.1. Which strategies are currently being applied to lumber and its use in construction, for example, in home interior walls, and to what extent?

- Reduce resource consumption
- Extend the life of products
- Reuse
- Recycling
- Energy recovery
- Other

2.2. Which strategies could easily be applied to lumber and its use in construction, for example, in home interior walls, in current designs?

- Reduce resource consumption
- Extend the life of products
- Reuse
- Recycling
- Energy recovery
- Other

2.3. Which are the main characteristics that could allow the application of strategies or that could hinder it the most?

- Characteristics that allow the application of circular economy strategies.
- Characteristics that hinder the application of circular economy strategies.

2.4. Following questions 2.1 and 2.2, what is the most promising circular economy strategy for lumber and its use in construction and what changes could be made to the product or the assembly for its implementation?

3. Particleboard

3.1. Which strategies are currently being applied to particleboard and its use in construction, for example, in cabinets, and to what extent?

- Reduce resource consumption
- Extend the life of products
- Reuse
- Recycling
- Energy recovery
- Other

3.2. Which strategies could easily be applied to particleboard and its use in construction, for example, in cabinets, in current designs?

- Reduce resource consumption
- Extend the life of products
- Reuse
- Recycling
- Energy recovery
- Other

3.3. Which are the main characteristics that could allow the application of strategies or that could hinder it the most?

- Characteristics that allow the application of circular economy strategies.
- Characteristics that hinder the application of circular economy strategies.

3.4. Following questions 3.1 and 3.2, what is the most promising circular economy strategy for particleboard and its use in construction and what changes could be made to the product or the assembly for its implementation?

4. Packaging cardboard

4.1. Which strategies are currently being applied to packaging cardboard and its use in corrugated cardboard boxes, and to what extent?

- Reduce resource consumption
- Extend the life of products
- Reuse
- Recycling
- Energy recovery
- Other

4.2. Which strategies could easily be applied to packaging cardboard and its use in corrugated cardboard boxes in current designs?

- Reduce resource consumption
- Extend the life of products
- Reuse
- Recycling
- Energy recovery
- Other

4.3. Which are the main characteristics that could allow the application of strategies or that could hinder it the most?

- Characteristics that allow the application of circular economy strategies.
- Characteristics hindering the application of circular economy strategies.

4.4. Following questions 4.1 and 4.2, what is the most promising circular economy strategy for packaging cardboard and its use in corrugated cardboard boxes and what changes could be made to the product or the assembly for its implementation?

5. *Chemi-thermomechanical pulp*

5.1. Which strategies are currently being applied to chemi-thermomechanical pulp and its use in food packaging, for example moulded pulp containers, and to what extent?

- Reduce resource consumption
- Extend the life of products
- Reuse
- Recycling
- Energy recovery
- Other

5.2. Which strategies could easily be applied to chemi-thermomechanical pulp and its use in food packaging, for example moulded pulp containers, in current designs?

- Reduce resource consumption
- Extend the life of products
- Reuse
- Recycling
- Energy recovery
- Other

5.3. Which are the main characteristics that could allow the application of strategies or that could hinder it the most?

- Characteristics that allow the application of circular economy strategies.
- Characteristics hindering the application of circular economy strategies.

5.4. Following questions 5.1 and 5.2, what is the most promising circular economy strategy for applied to chemi-thermomechanical pulp and its use in food packaging and what changes could be made to the product or the assembly for its implementation?