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Mountain Pine Beetle killed wood

Value Recovery  
[in a limited time frame]

A “newcomer’s” perspective

# Provincial Strategy:

- Encourage long-term economic sustainability for communities affected by the epidemic.
- Maintain and protect public health, safety and infrastructure.
- **Recover the greatest value from dead timber before it burns or decays, while respecting other forest values.**
- Conserve the long-term forest values identified in land use plans.
- Prevent or reduce damage to forests in areas that are susceptible but not yet experiencing epidemic infestations.
- Restore the forest resources in areas affected by the epidemic.
- Maintain a project management structure that ensures coordinated and effective planning and implementation of mitigation measures

# It's a 'dead' tree problem:

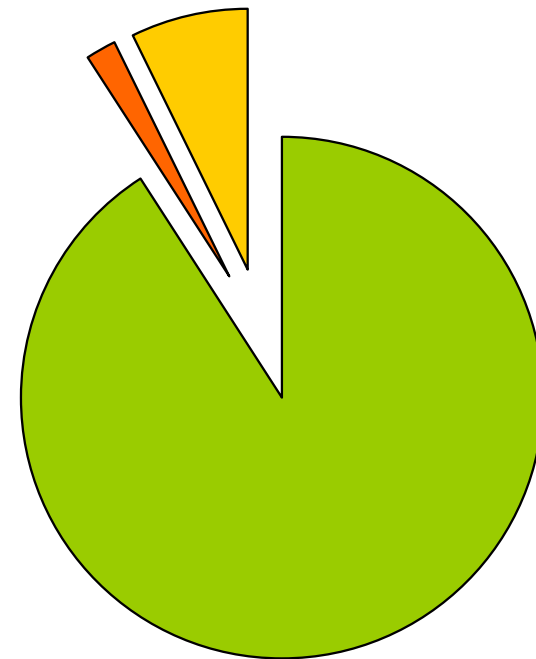
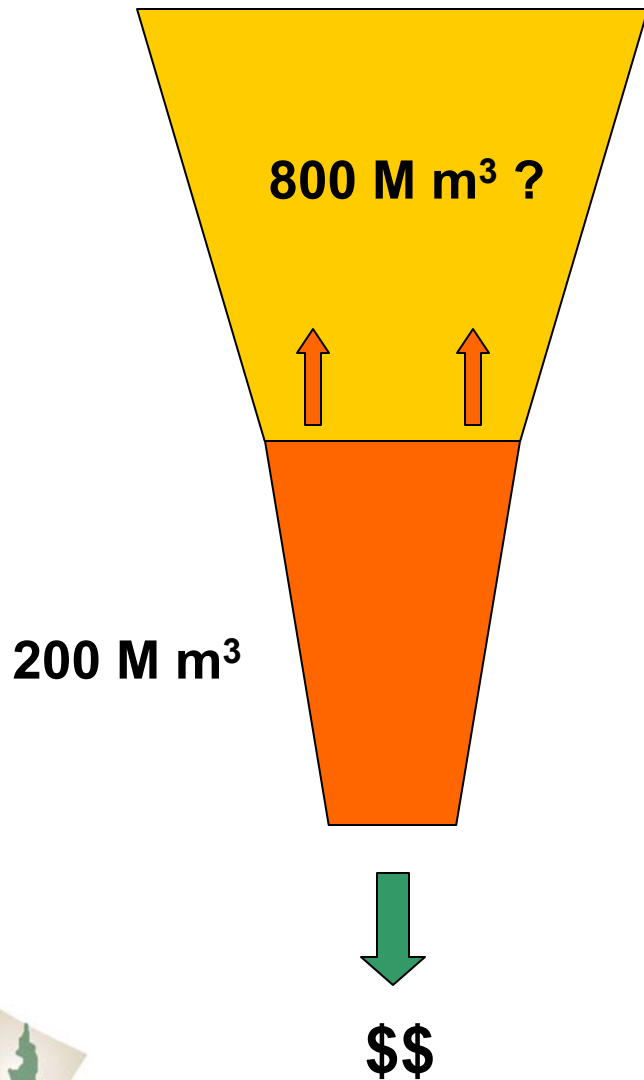
**How much standing dead pine can be used economically?**

For how long?

For what products?

For what markets?

# How big is the problem?



- BC Merchantable Timber
- Infected
- Potentially Infected

# How much could BC lose?

**Not just \$4 to \$14 billion lost Stumpage**

**Final product sells for \$220 / m<sup>3</sup>**

**Potential Revenue loss \$53 to \$170 billion**

**Compare to GDP of BC: \$156 Billion / year**

***Priority must be to minimize this loss***

# Where does BC's wood go now?

**IN**

**Harvest**  
**~ 80 M m<sup>3</sup>**

Exported Logs  
4 M m<sup>3</sup>

Biomass  
13 M m<sup>3</sup>

Exported Chips  
0.7 M m<sup>3</sup>



**Pulp and Paper**  
**23 M m<sup>3</sup>**

*Chips*

**Lumber**  
**36.5 M m<sup>3</sup>**

Wood Panels  
3.3 M m<sup>3</sup>

**MPB WOOD**

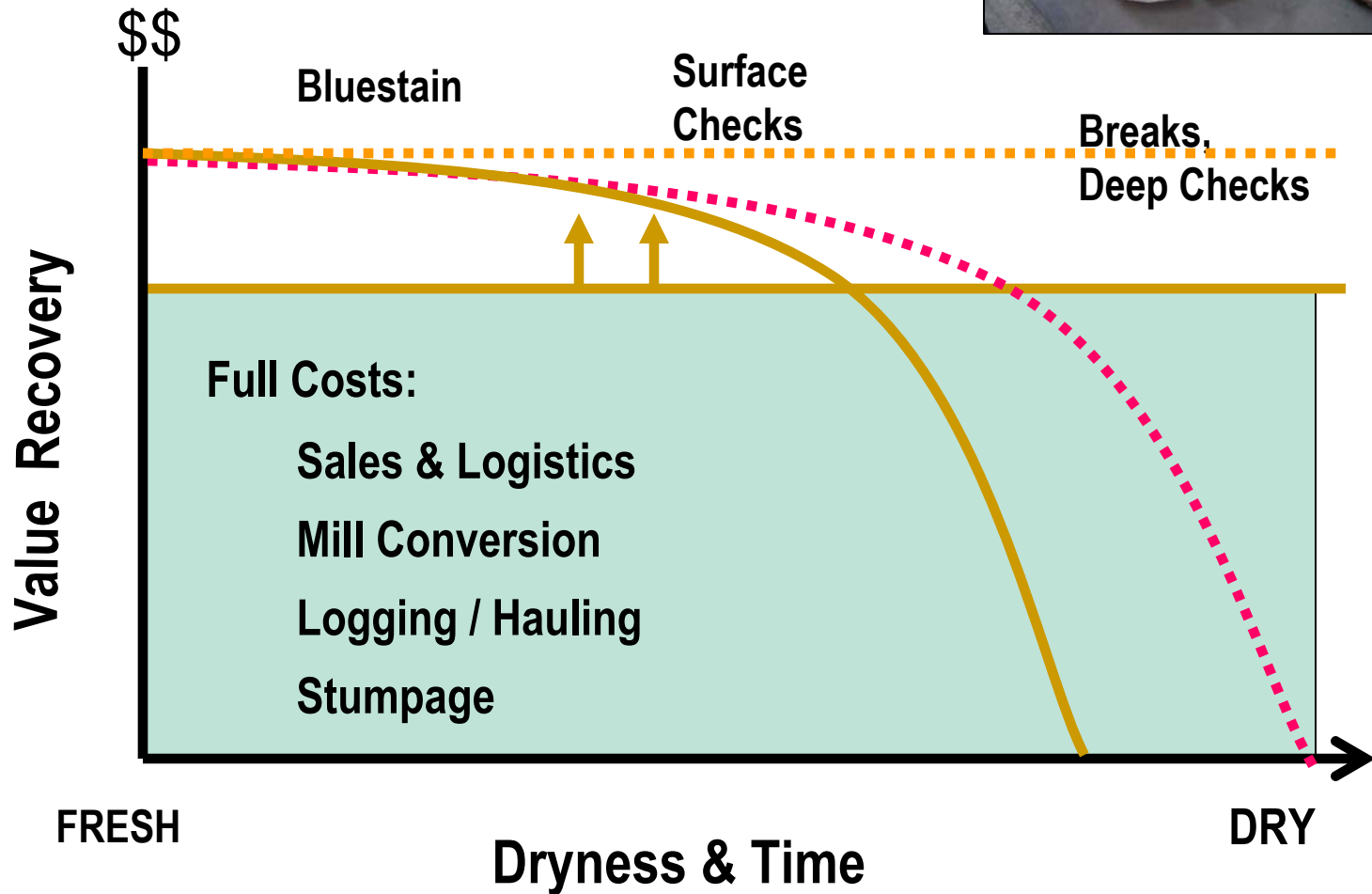
**200-300 M m<sup>3</sup>**

**OUT**  
**~ 80 M m<sup>3</sup>**

# What is the problem with MPB killed wood?



# Shelf life is the issue:



# Operational Research for Value Recovery:

## 2002 Action Plan

3 Forest Products Institutes

### Immediate:

Shelf life & processing

Lumber

Wood panels

Pulp and Paper

Harvesting costs

Energy options



Current progress due to funding from

- Industry
- Canadian Forest Service
- Province

### Medium:

Product Diversification

## Pulp & Paper:

- ✓ Adapt available knowledge
- ✓ Pulping
- ✓ Characterizations
- ✓ Processing modification
- ✓ Different product specifications
- C Energy efficiency
- ✓ Chip quality from round wood

## Solid Wood Manufacturing:

- ✓ Adapt available knowledge
- ✓ Quantify product value recovery
- ✓ Wood characterizations
- ✓ Innovative Processes to increase potential value recovery
- ✓ Energy efficiency
- ✓ Characterize chip quality
- ✓ Sorting for Value
- ✓ Adapt available knowledge

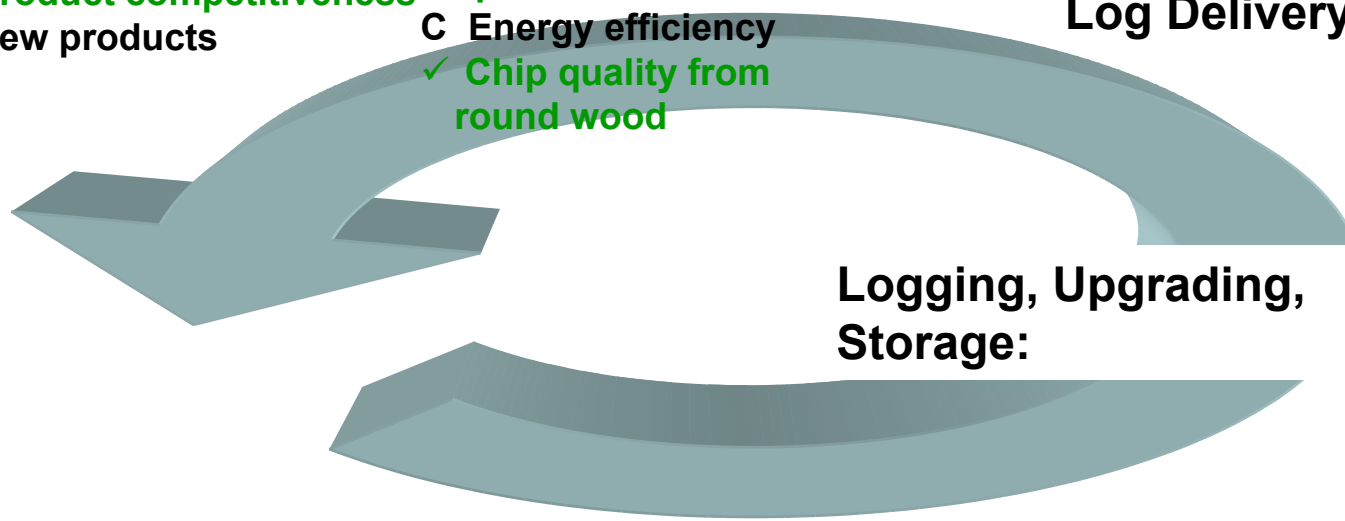
## Log Delivery:

- C Soft footprint hauling
- ✓ Optimized truck size
- C Mill storage
- C Soil & stream conservation
- C Log sorting
- C Storage locations
- C Road building
- ✓ Harvesting trials
- C Energy efficiency

## Logging, Upgrading, Storage:

## Markets:

- ✓ Characterize product quality
- ✓ Use of bluestained wood
- ✓ Product attributes
- ✓ Customers' perceptions
- ✓ Product competitiveness
- C New products



## The Forest Resource:

- C Wood quality by site
- ✓ Regeneration

## Stand Inventory:

- ✓ MPB attacked stands
- ✓ Longer shelf life stands
- ✓ Stand susceptibility

## Harvest Planning:

- ✓ Adapt available knowledge
- ✓ Equipment & system choice
- ✓ Harvest scheduling



# Findings to date:

## DOWNSIDE

- 15 year shelf life probably too optimistic
- Current rule of thumb:
  - 2 year for veneer peelers
  - 5-7 years for sawlogs
  - Doubts beyond 5 years for pulp

## UPSIDE

- Sapwood wets and dries faster
  - Potential for treated wood?
  - Ability to mask blue stain?
  - Energy savings on drying?
  - Ease of re-hydrating for OSB?

***Further R&D needed***

# Options for Diversification:

<b>Product</b>	<b>Process</b>	<b>Market</b>
OSB	Feasible (fines)	Strong- more growth?
Veneer Products (LVL)	Not likely	Strong
I-joist / Glulam	Feasible (recovery)	Strong - growing
MDF or Particle-board	Feasible	Large, but Weak
Wood-Cementboard	Feasible	Very small
Offshore export to existing lumber markets	High promotion and technical support	Large volume?
Secondary Manufacturing & Components	Feasible (recovery)	Distance?

Not all of the dead wood can be used  
SO.....

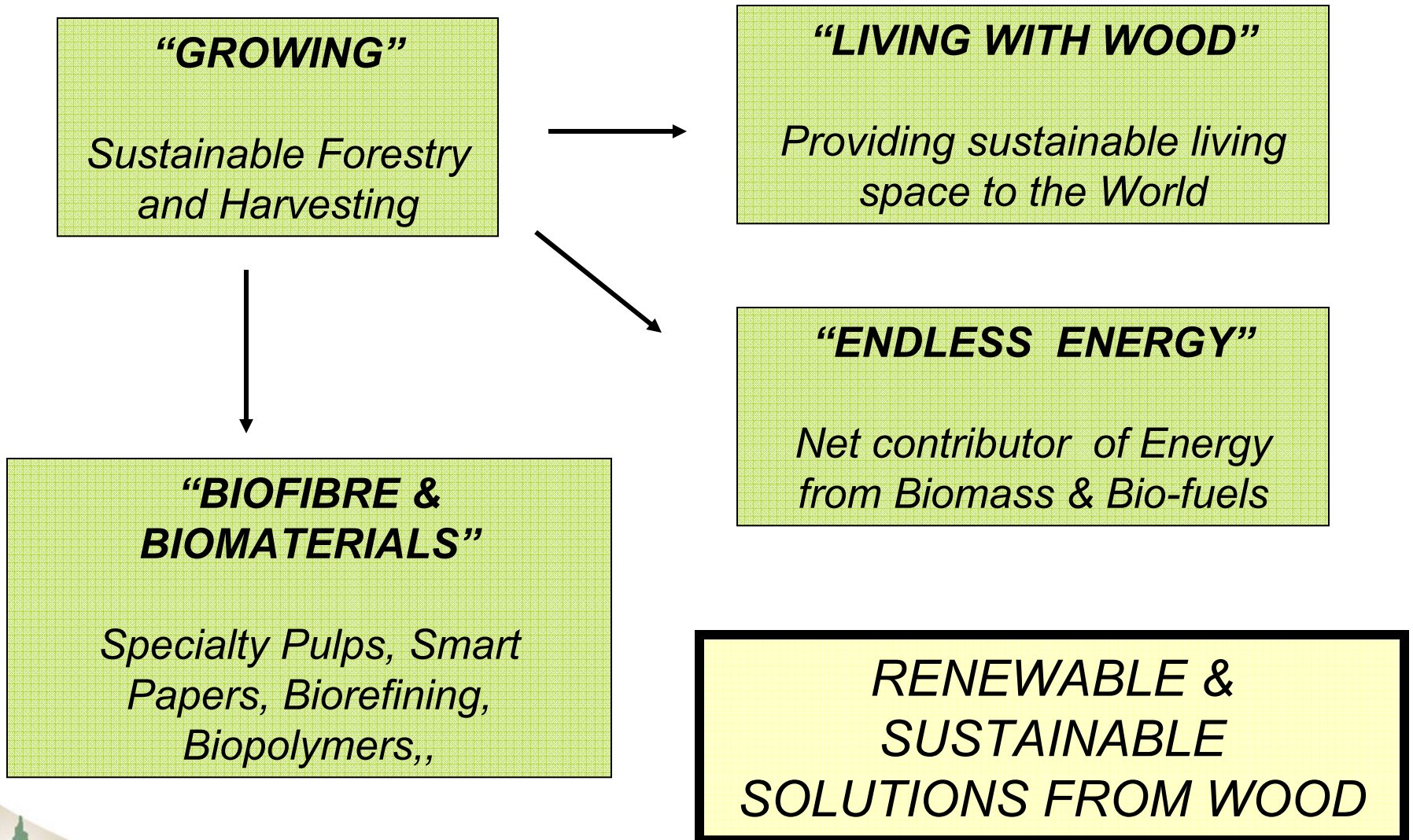
Much of the 200-800 Mm<sup>3</sup> will be uneconomical to harvest:

- Management of fire risk is critical...
  - research needed?
- Strategies and economics to reforest dead standing areas.....
  - research needed?

# Longer term challenges:

- Forest Products Sector needs to 'reinvent' itself  
.....a National Issue
- Not only converting sustainable forests to commodity products but:
  - Energy efficient housing systems for the world,
  - Advanced composite biomaterials for building, communicating, packaging
  - Renewable Bio-energy & Bio-fuels
- Turn MPB Research into an opportunity for BC

# Vision for a Sustainable Future:



# Research Issues going forward:

- Focused direction of R&D funds (which covers full cost of research, transfer & marketing).
- To manage balance of short term operational research, and longer term research needs

# Take Home Messages:

- Need to extract as much value as possible in short term.... an opportunity
- An Action Plan is being followed....needs funding
- Operational research required for implementable answers and solutions....industry & institutes lead.
- Need to focus longer term research with universities

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