



Creating forest sector solutions

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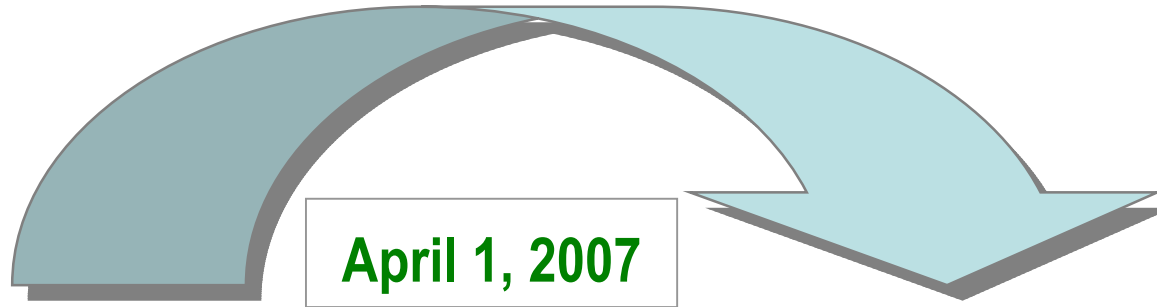


Wood energy developments in the UNECE region

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October 09, 2007
Geneva, CH

Toward an Integrated Innovation System



FERIC

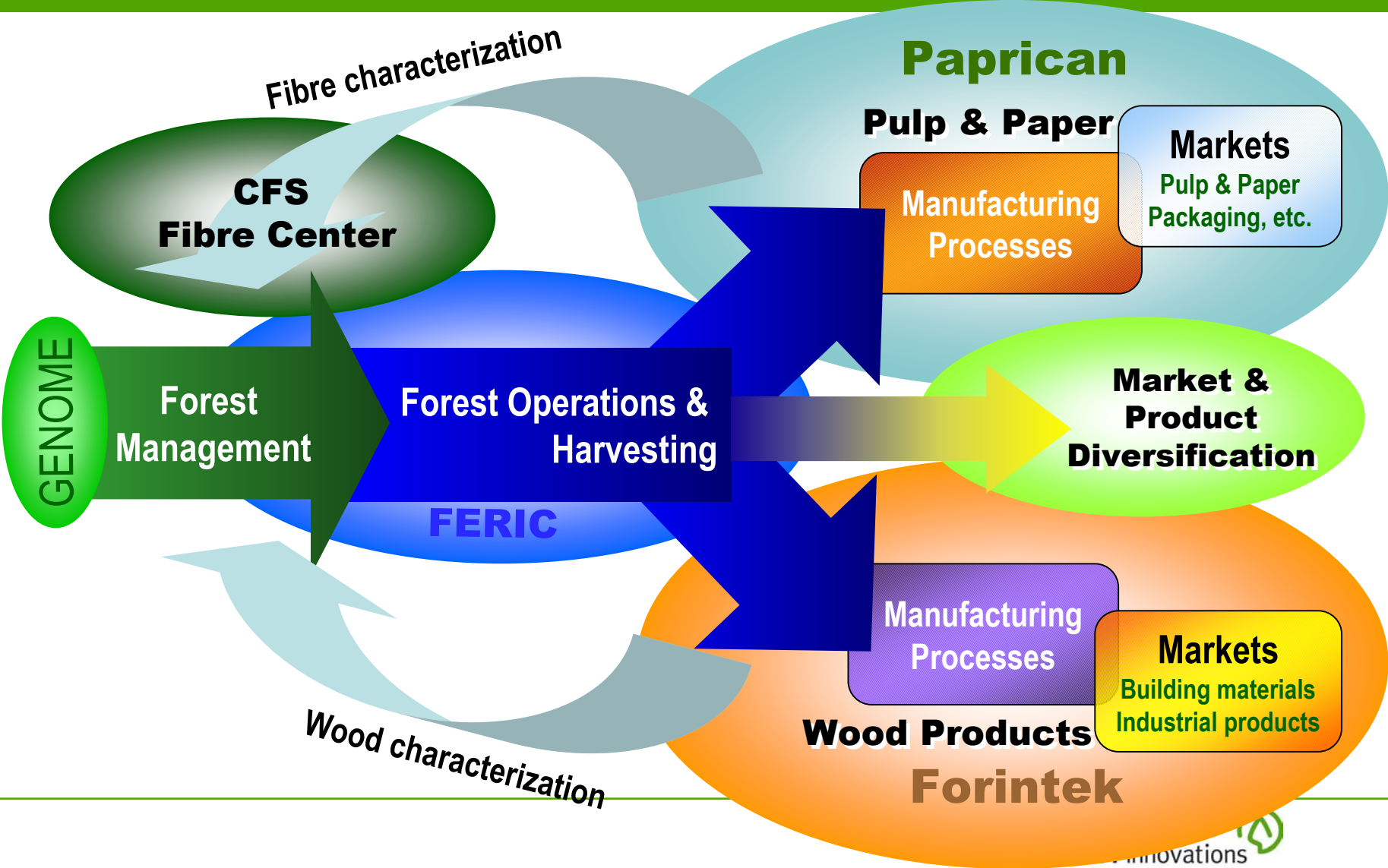
FORINTEK

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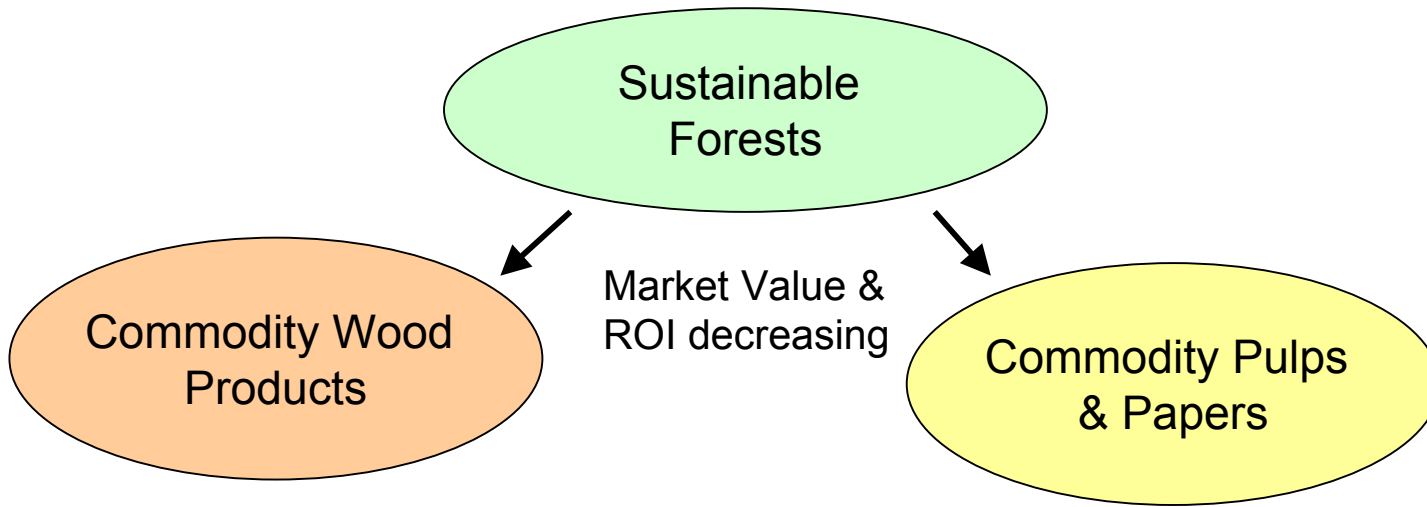
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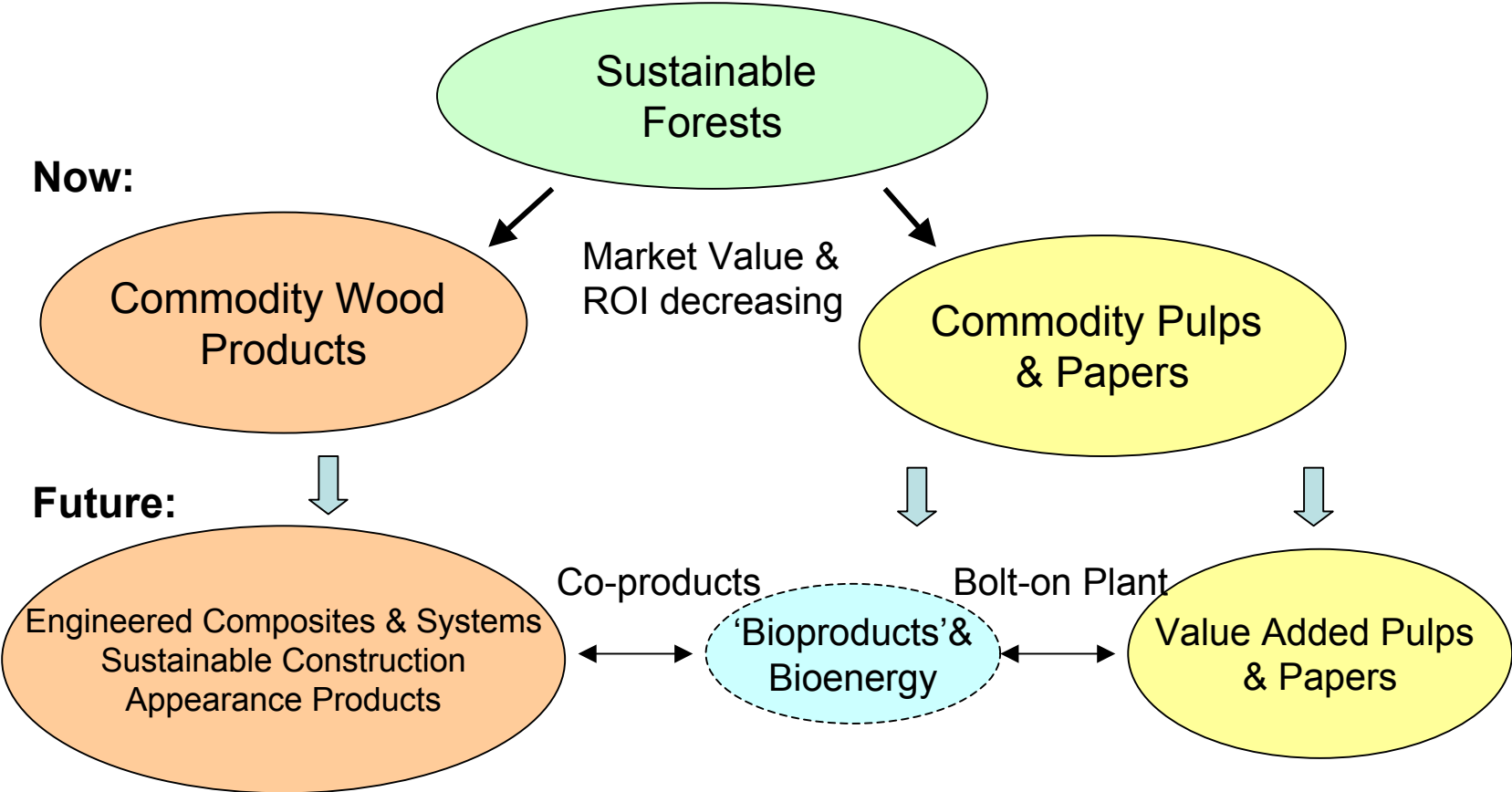
The Forest Sector Value Chain



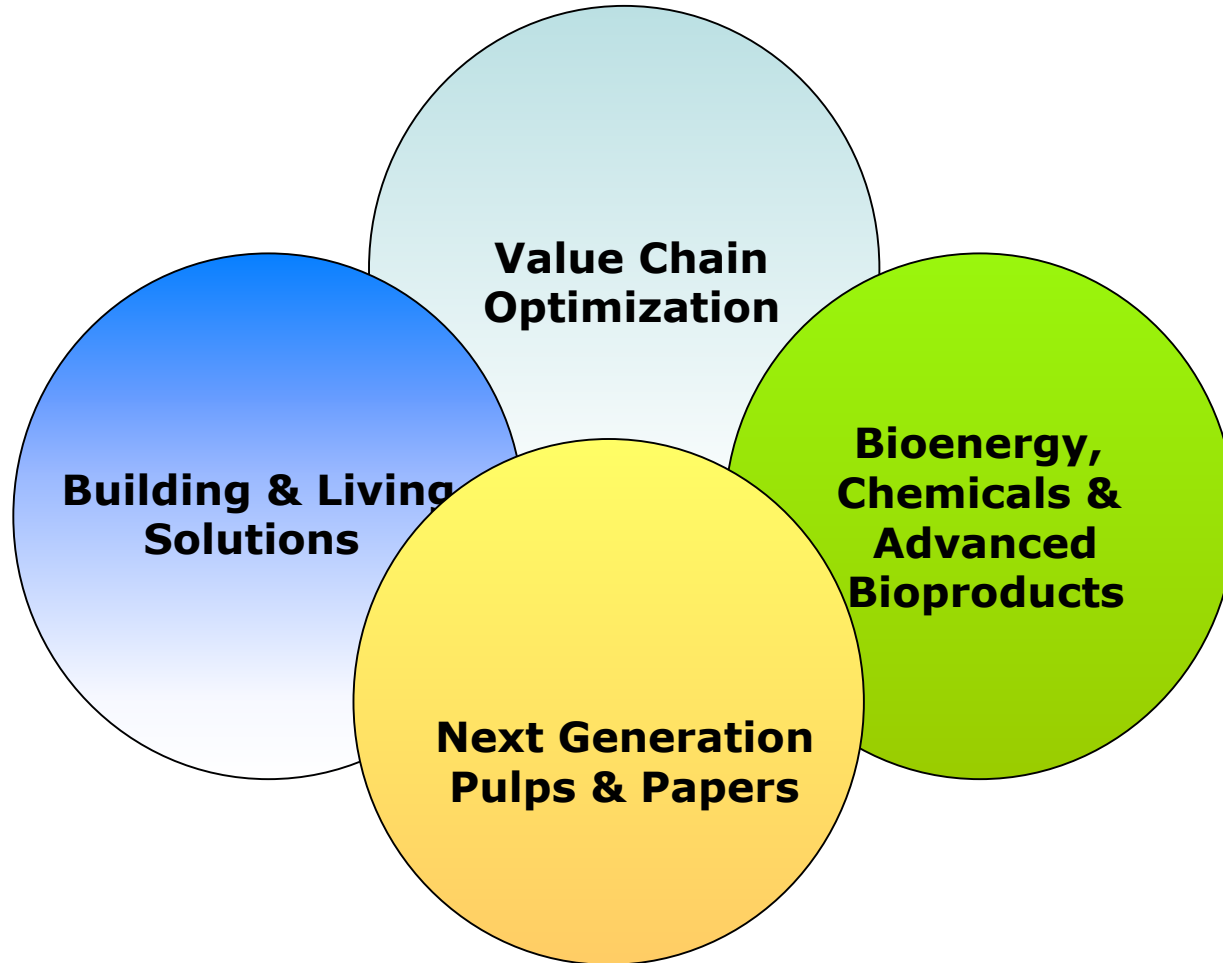
Current Industry



Future Industry



Four Flagship Innovation Programs



Market driven R&D

Strands	Residue	Softwood Lumber	Hardwood Lumber	Softwood Veneer	Hardwood Veneer	Shakes/ Shingles
OSB	Pulp&Paper	Dimension	Dimension	Plywood	LVL	Treated
OSL	Particle Board	MSR	Parts/	Veneer Sheets	Plywood	Untreated
	MDF	Boards	Factory	PSL	Veneer Sheets	
	HDF	Timbers	Boards	LVL		
	Bark Board	FJ				
	Wood Cement	Treated				
	Plastic Wood	EG Panels				
	Fibre Mat	Glue Lam Stock				
	Bailed Fibre	I Joist Flanges				
	Other Wood Comp.					

Canada exports

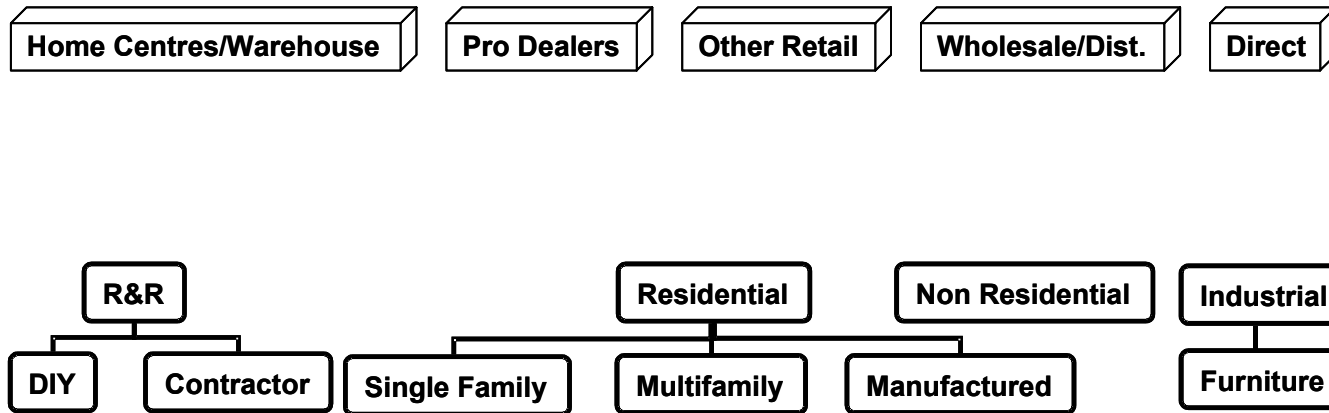
\$ 22.1 billion

\$ 19.0 billion

Building Systems

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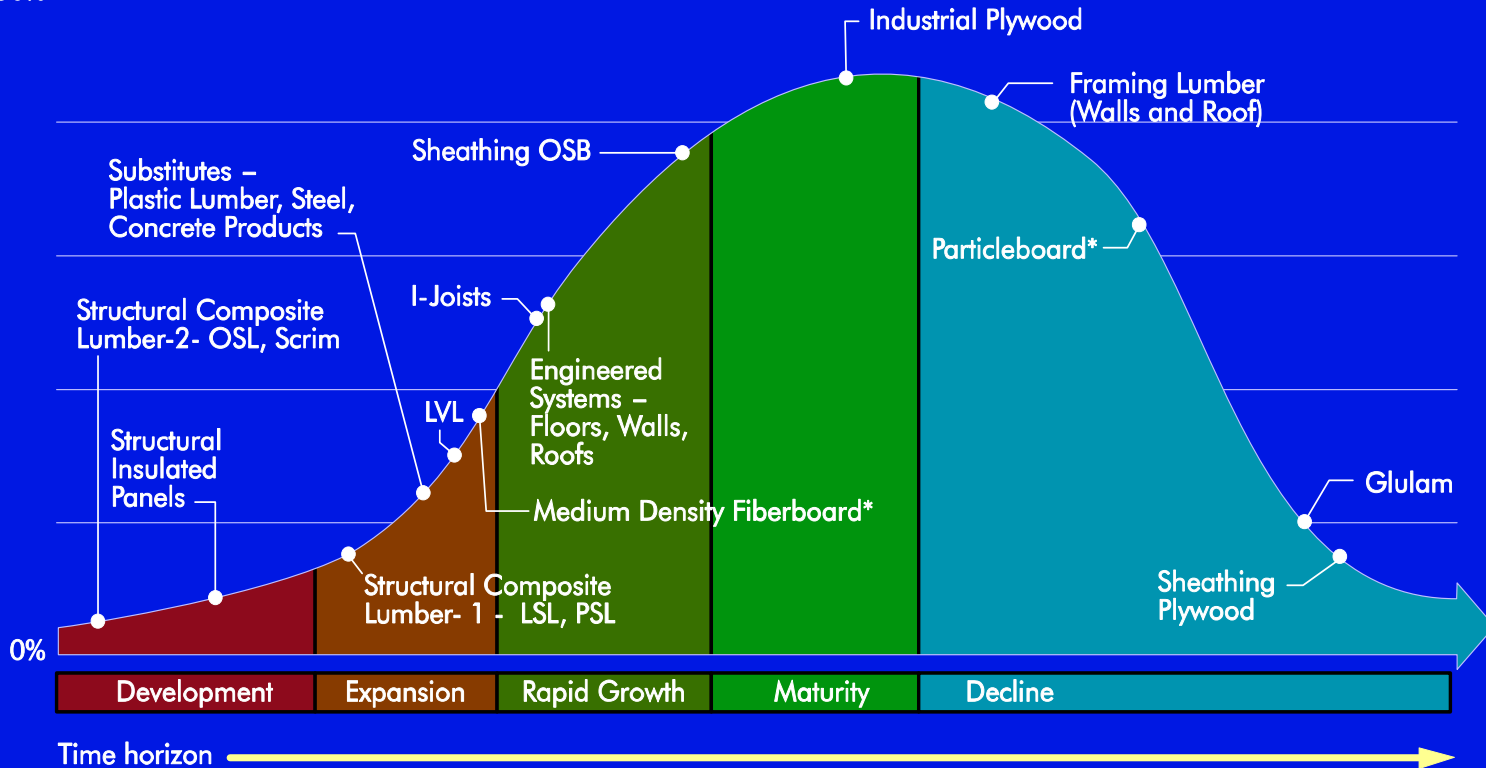
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Evolving markets... evolving products

Share in Major Markets %

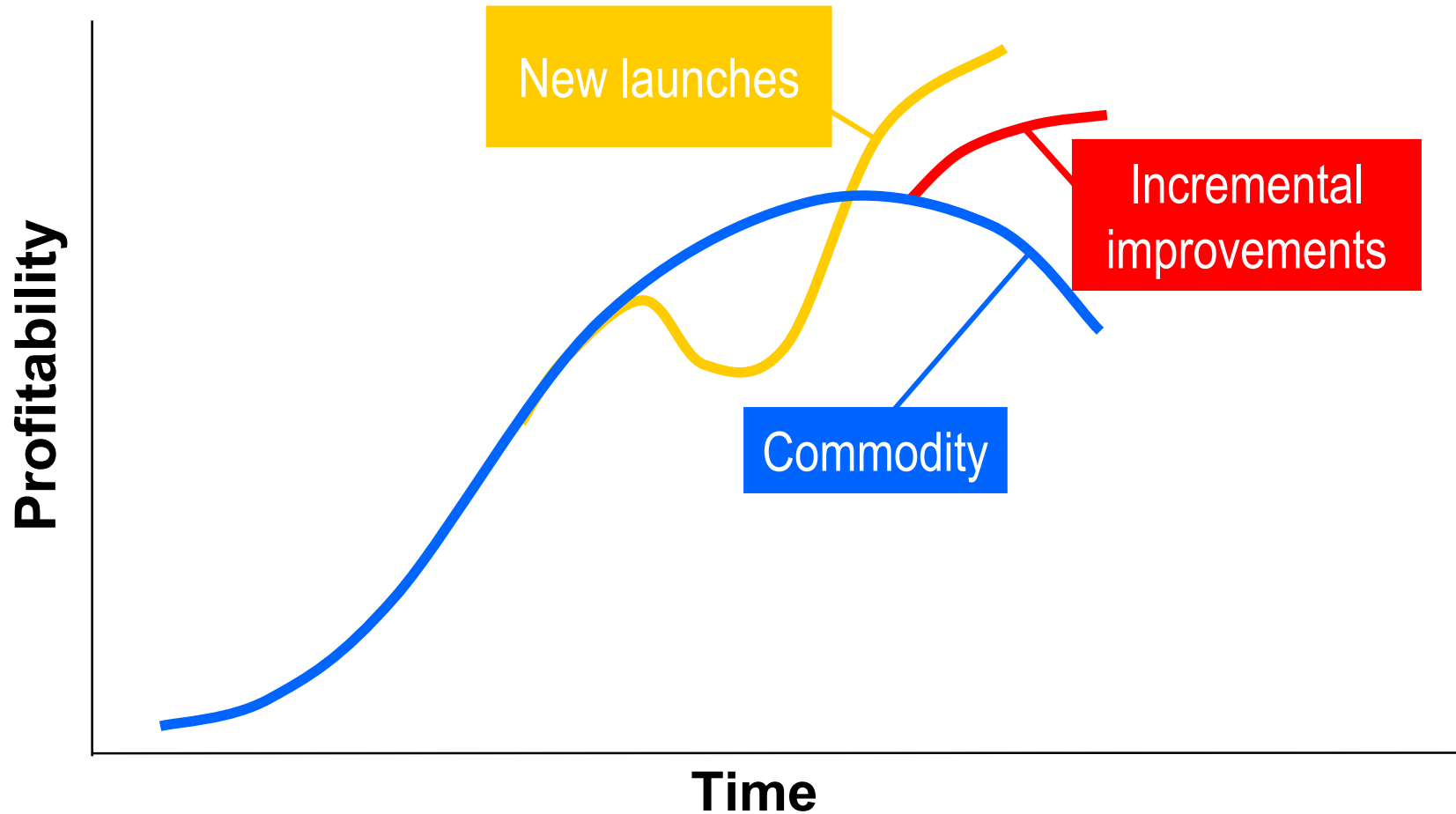
100%



Source: United States Forest Service, APA (2006)

* Non-structural composite panels

Evolving markets... evolving products



Western Canada pellet mill

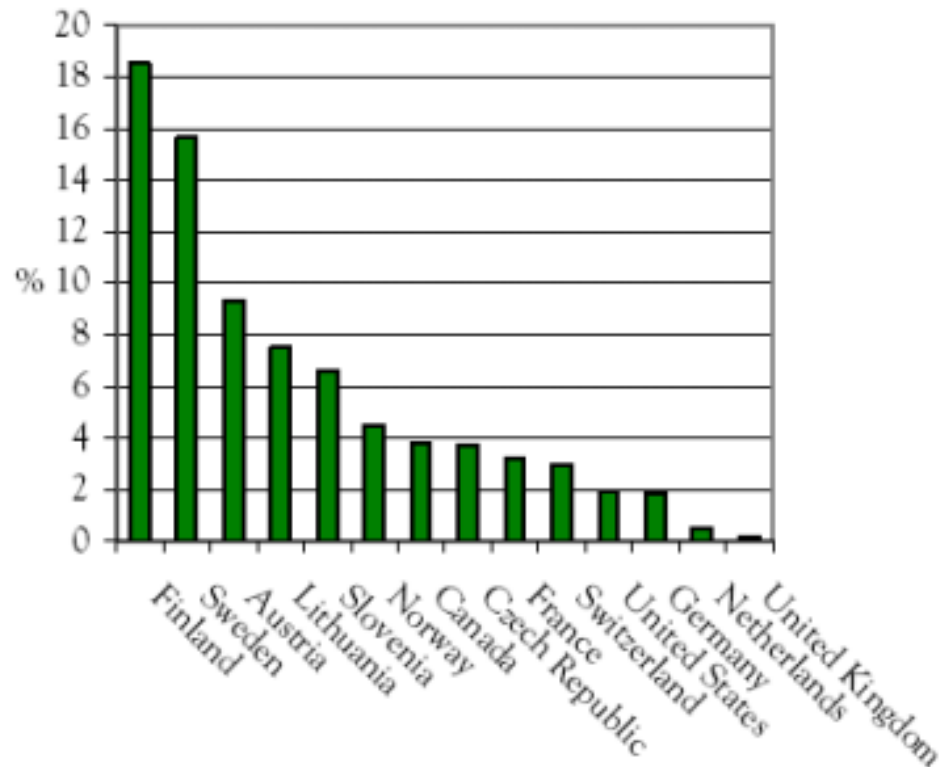


Policy drivers for wood energy production

- EC's "Renewable Energy Roadmap" with a target of 20% by 2020 (12% originally proposed for 2010)
- U.S. target to reduce gasoline usage by 20% by 2017, and to make cellulosic ethanol cost competitive with corn by 2012
- Wood based electric power received support in 24 U.S. states' Renewable Portfolio Standards
- Sustainability of existing bioenergy increasingly under scrutiny (e.g. palm oil)

Wood Energy by Country

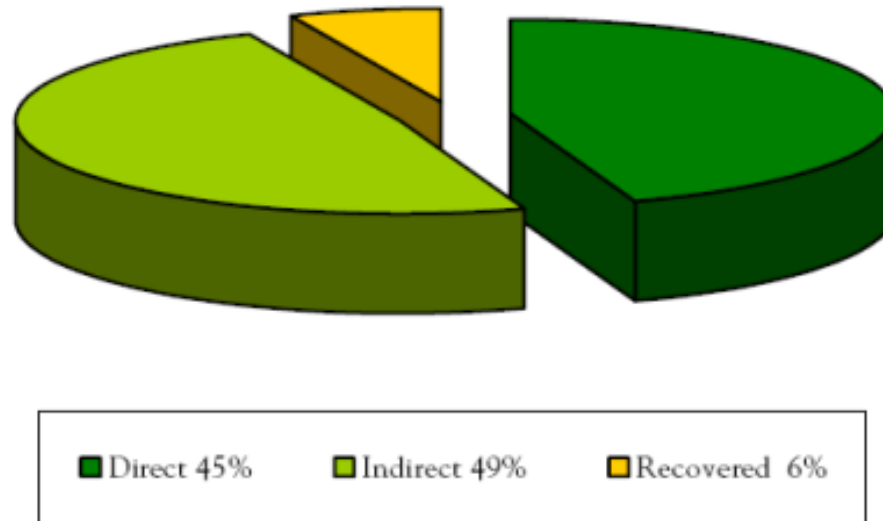
Wood energy share of countries' primary energy usage, 2005



Source: Steierer et al., 2007.

Sources of Wood Fuel—Europe

Sources of woodfuel in 12 European countries, 2005

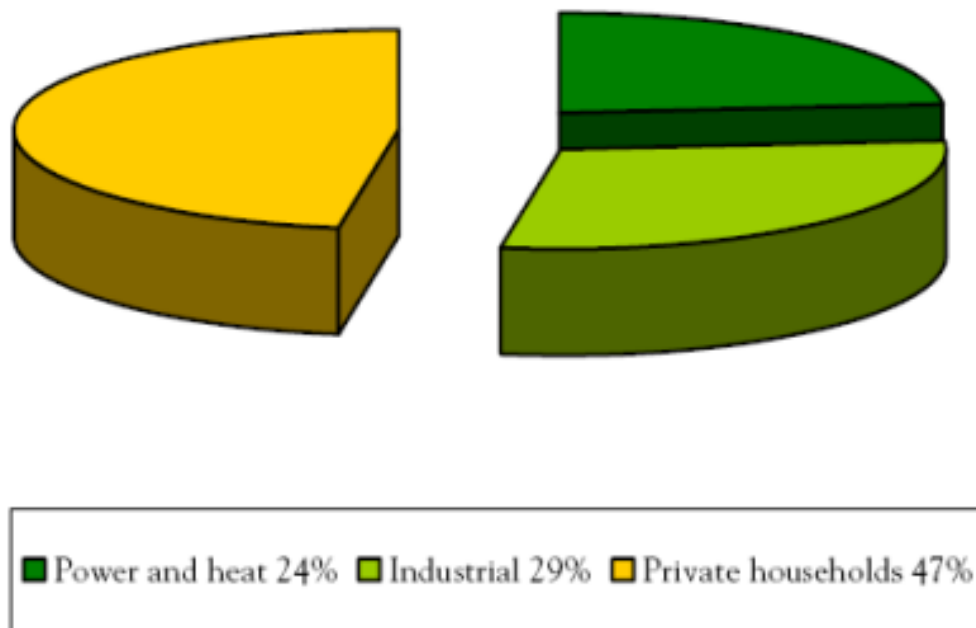


Notes: 185 million m³ in total. Direct is wood from forests. Indirect is processed and unprocessed by-products from wood processing industries. Recovered wood is post consumer after serving one lifecycle.

Source: Steierer et al., 2007.

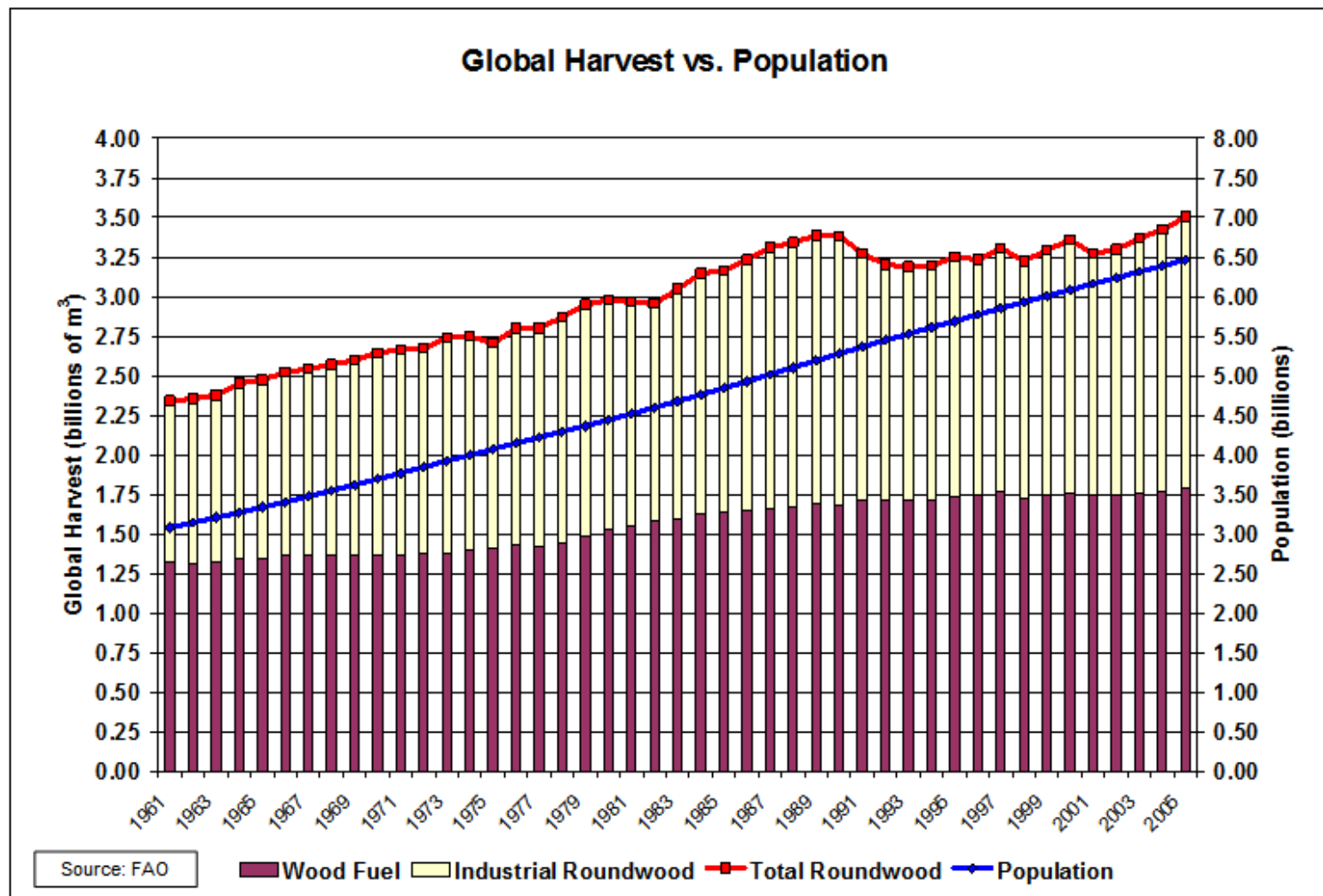
Usage of Wood Fuel—Europe

Usage of woodfuel in 12 European countries, 2005



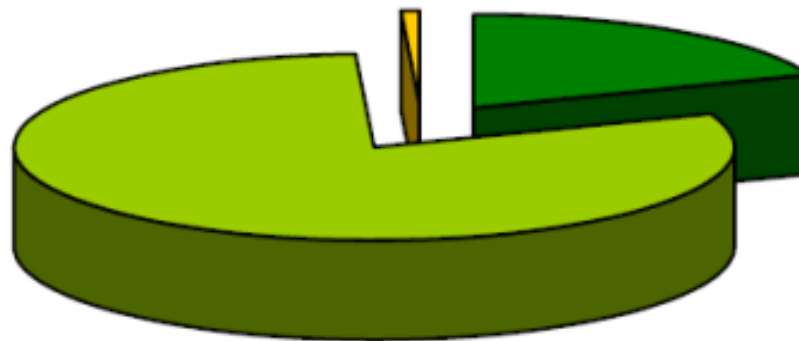
Source: Steierer et al., 2007.

Global log consumption



Sources of Wood Fuel—North America

North American sources of woodfuel, 2005



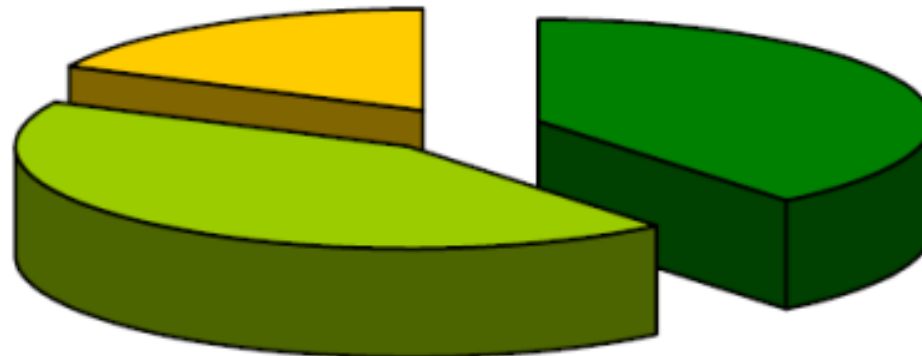
■ Direct 19% ■ Indirect 80% ■ Recovered 1%

Note: 260 million m³ in total.

Source: Steierer et al., 2007.

Uses of Wood Fuel—North America

North American uses of woodfuel, 2005

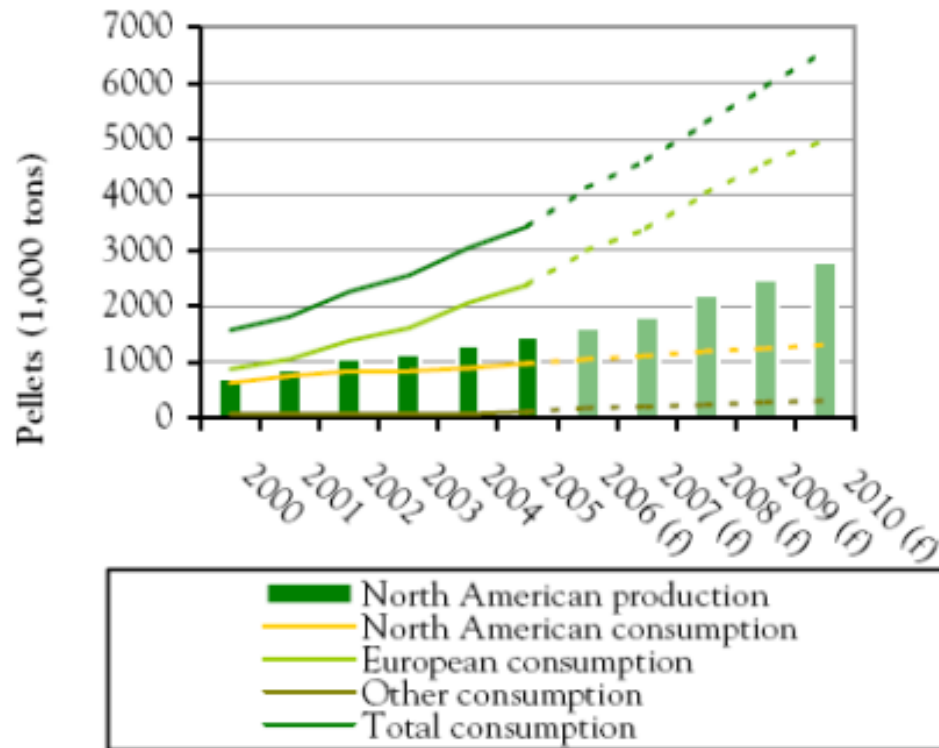


■ Power and heat 39% ■ Industrial 43%
■ Private households 18%

Source: Steierer et al., 2007.

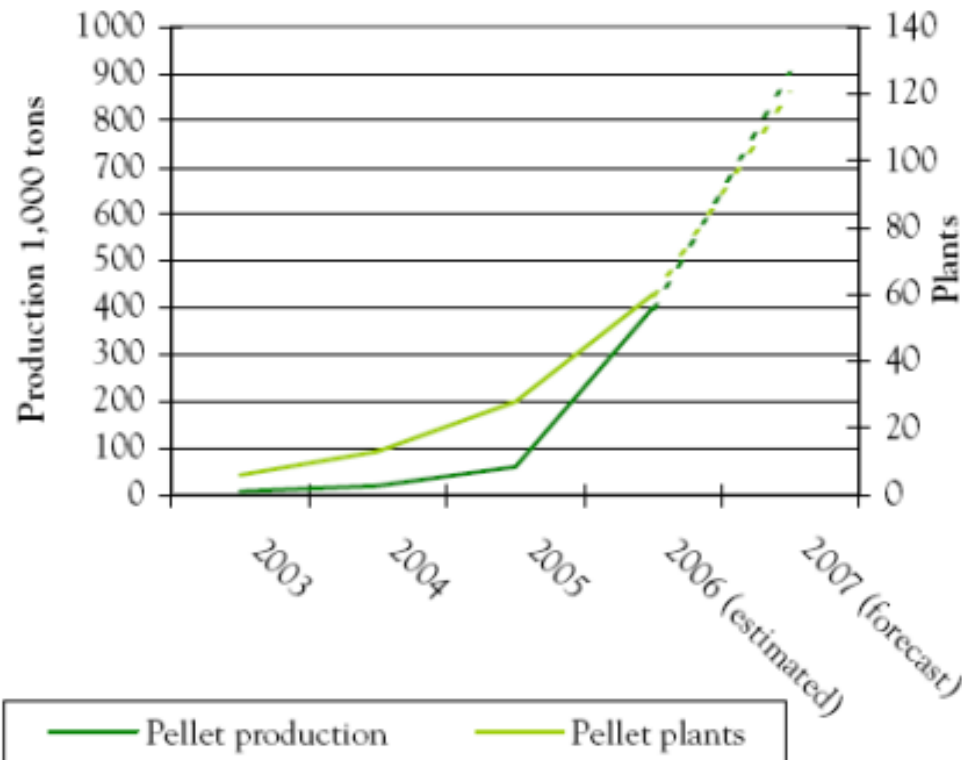
Production / Consumption of Wood Pellets

Production and consumption of wood pellets, 2000-2010



Russian Pellet Industry

Russian pellet industry development, 2003-2007



Source: Ovsyanko, 2007.

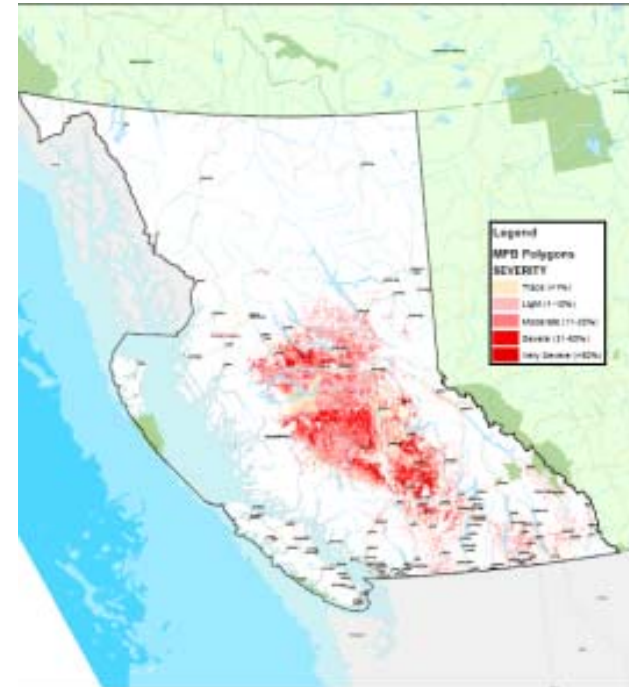
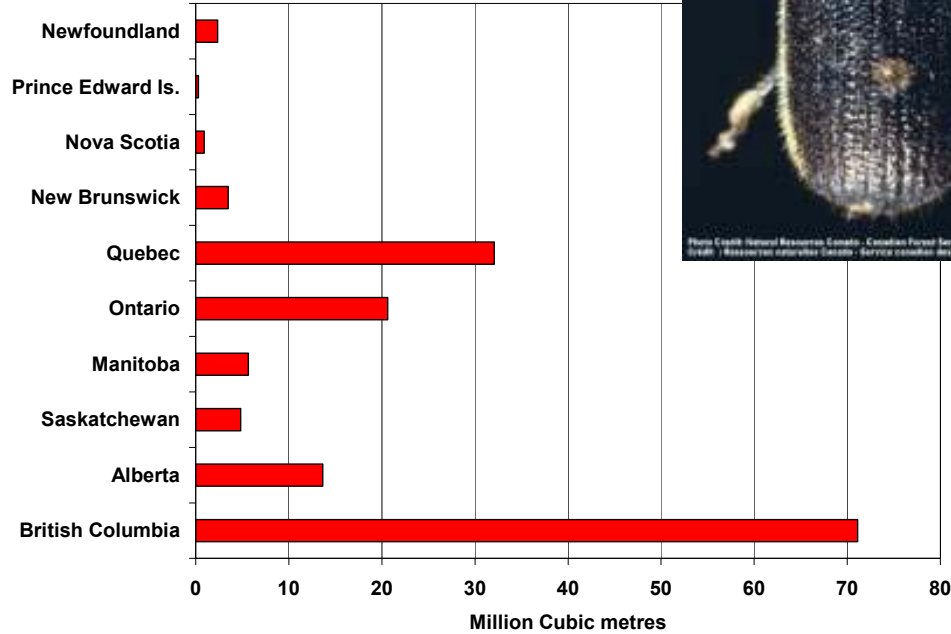
Bioenergy & Fuels:

Net contributor of Energy



- Nexterra & Tolko

Mountain Pine Beetle Attack



MPB time projections

Provincial Level Projection of the Current MPB Outbreak

Cumulative percentage of pine killed
data 1999 to 2004
projection 2005 to 2014

*Supported by the
Mountain Pine Beetle Initiative of the Canadian Forest Service
and the BC Forest Service*

Canada 

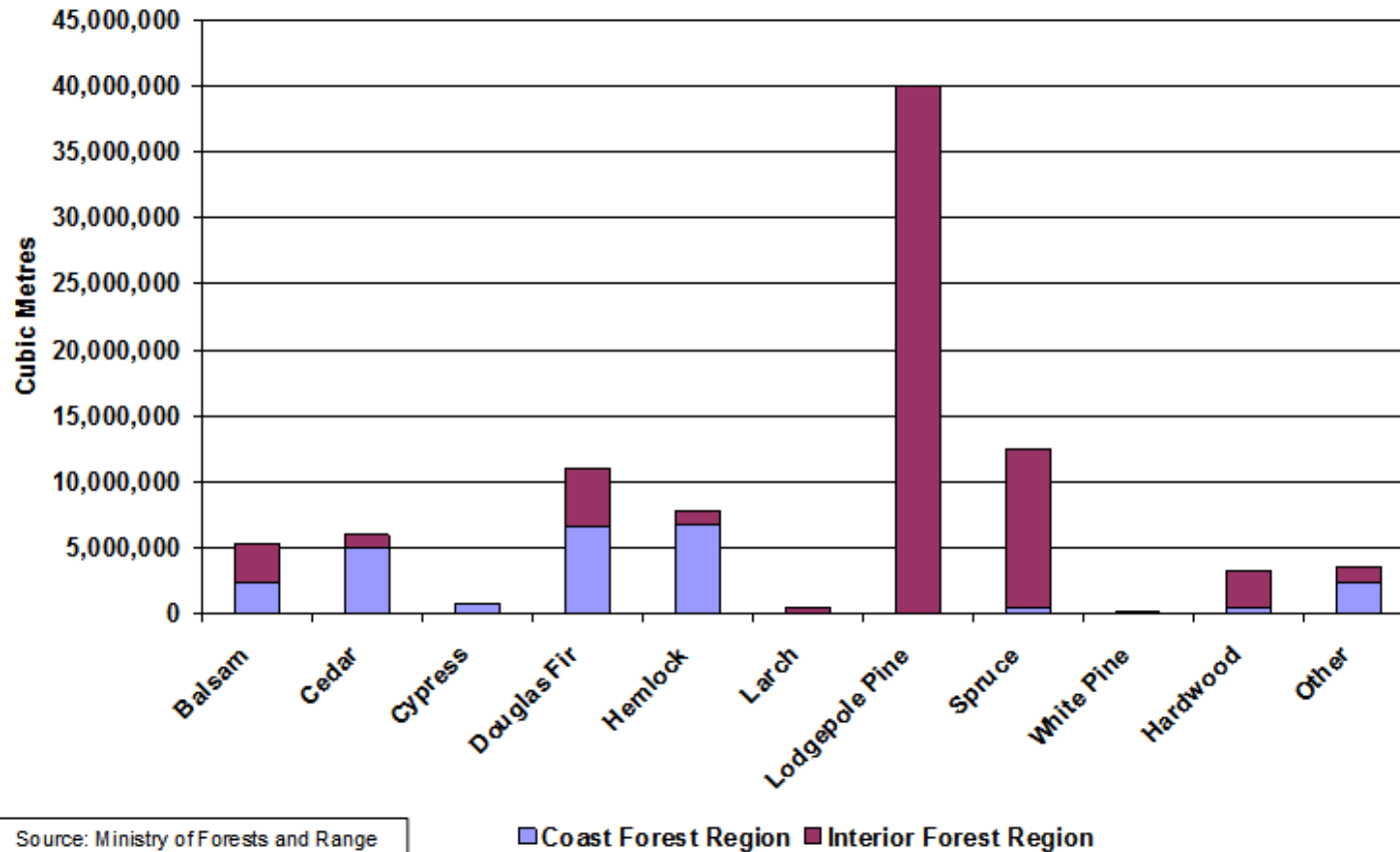






BC log harvest

British Columbia Log Harvest (2005/06) - 90,543,889 m³



Drops in Harvests in Eastern Canada

20% reduction in Québec (approx. 6 million m³)

15% reduction in Ontario (approx. 3 million m³)

North American Conifer Chip Prices

	Q2 05	Q3 05	Q4 05	Q1 06	Q2 06	Q3 06
Northwest	\$73	\$72	\$73	\$76	\$79	\$92
South	64	66	68	68	70	68
British Columbia	65	60	59	60	63	68
Eastern Canada	135	138	142	137	140	127

U.S. prices per oven dry metric ton

Source: Wood Resources International Ltd.



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