

Wood for Paper: Fiber Sourcing in the Global Pulp and Paper Industry

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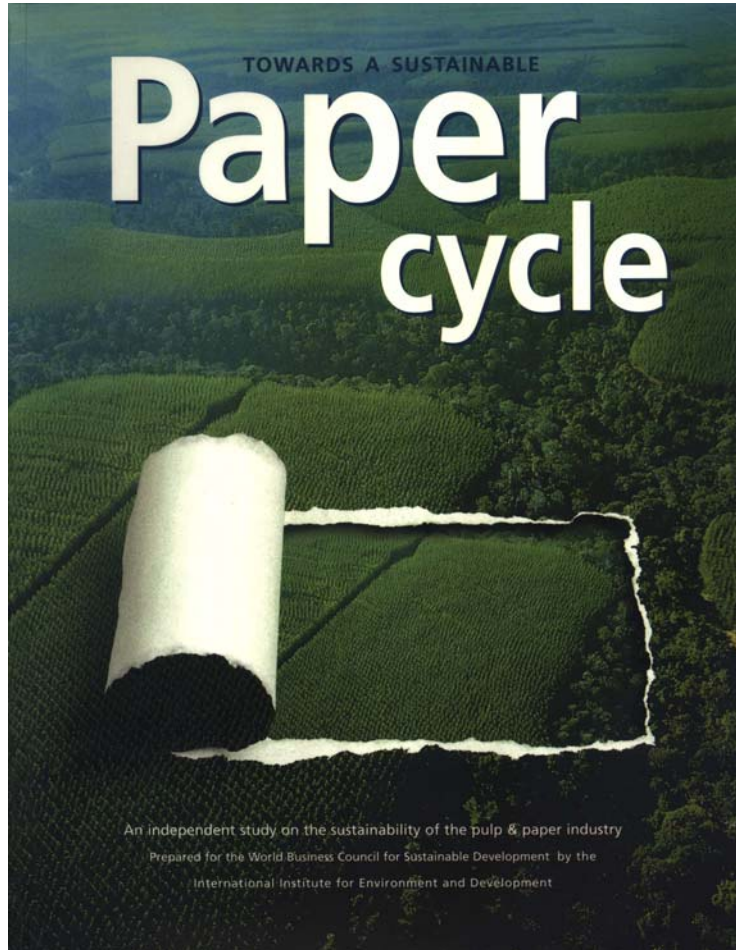
Seneca Creek Associates, LLC

Forest Trends Potomac Forum
February 14, 2008

Purpose/Objectives

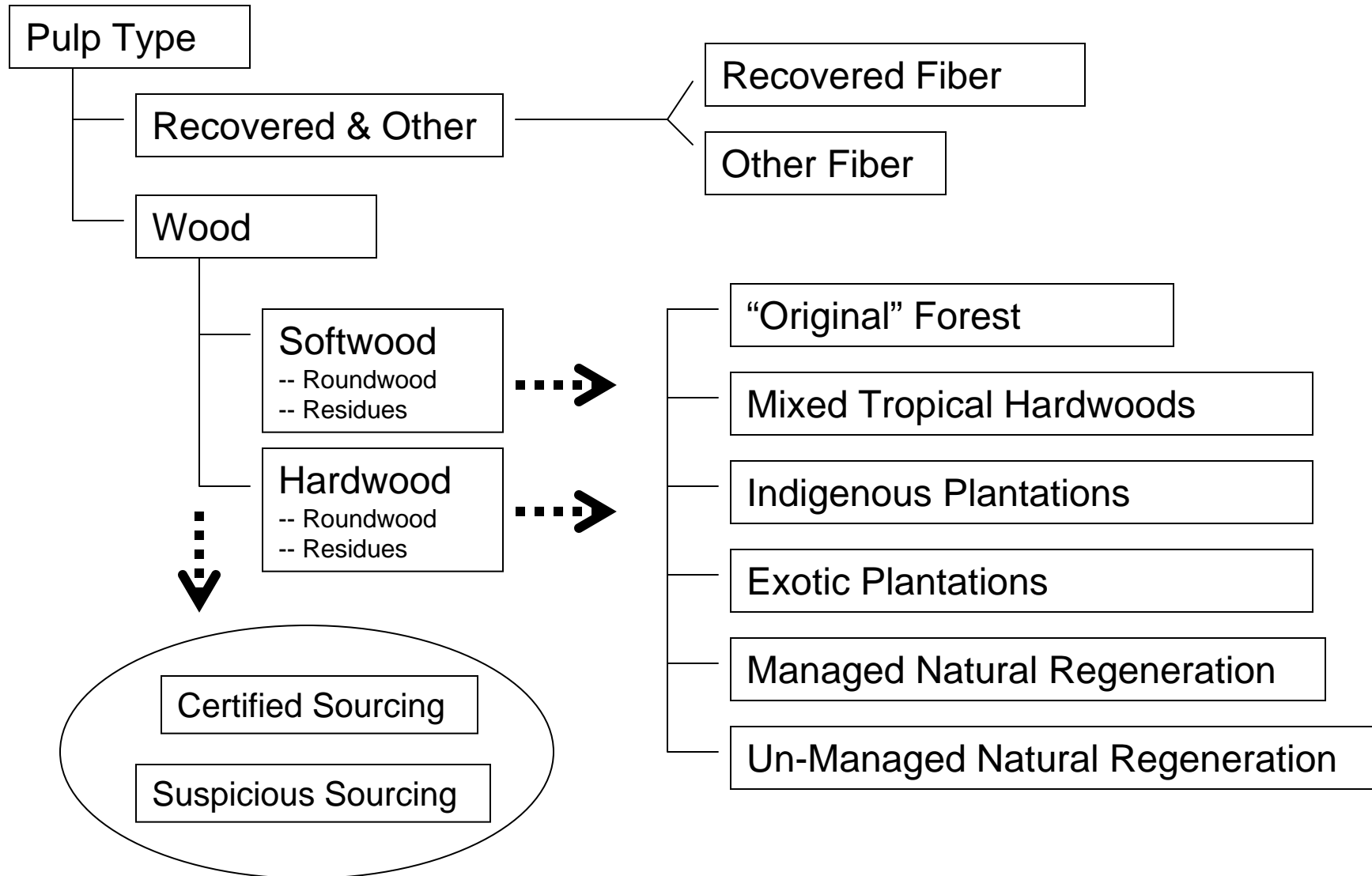
- 1) Profile the sources of raw material supply for 90% of global supply;
- 2) Analyze raw material supply to the pulp & paper industry in selected countries/regions;
- 3) Review reports and examine available data related to illegal logging allegedly connected to the pulp and paper industry;
- 4) Examine extent certification is being used in sourcing for the pulp and paper industry;
- 5) Assess competitive aspects.

Other Background



- Collaboration with Wood Resources International, LLC
- Methods similar to those used in 1993 Study by Int. Institute for Environment & Development (IIED)
- Certification and Suspicious Fiber Sourcing are new elements

Categorizing Fiber Sourcing

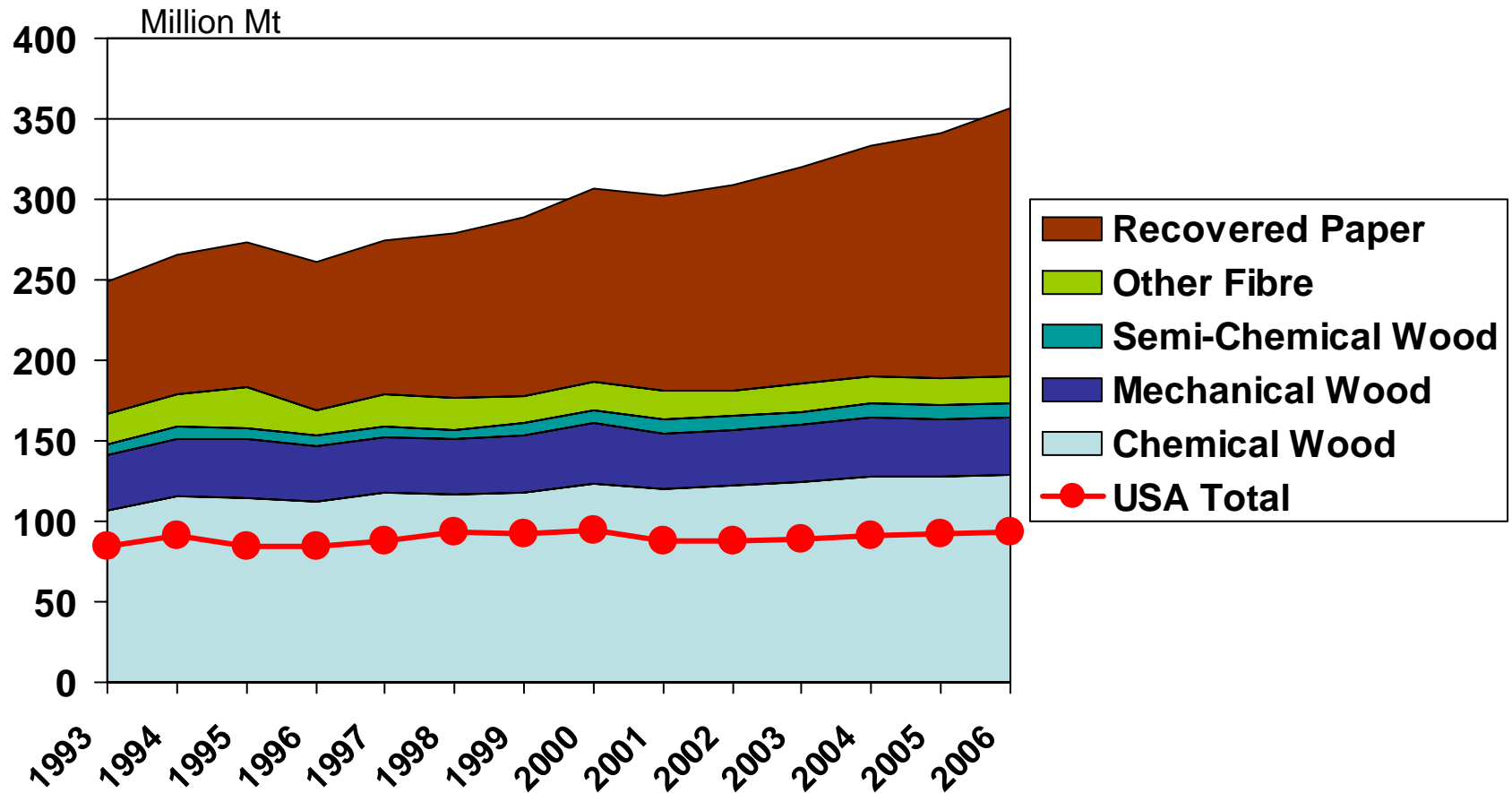


Forest Type Definitions

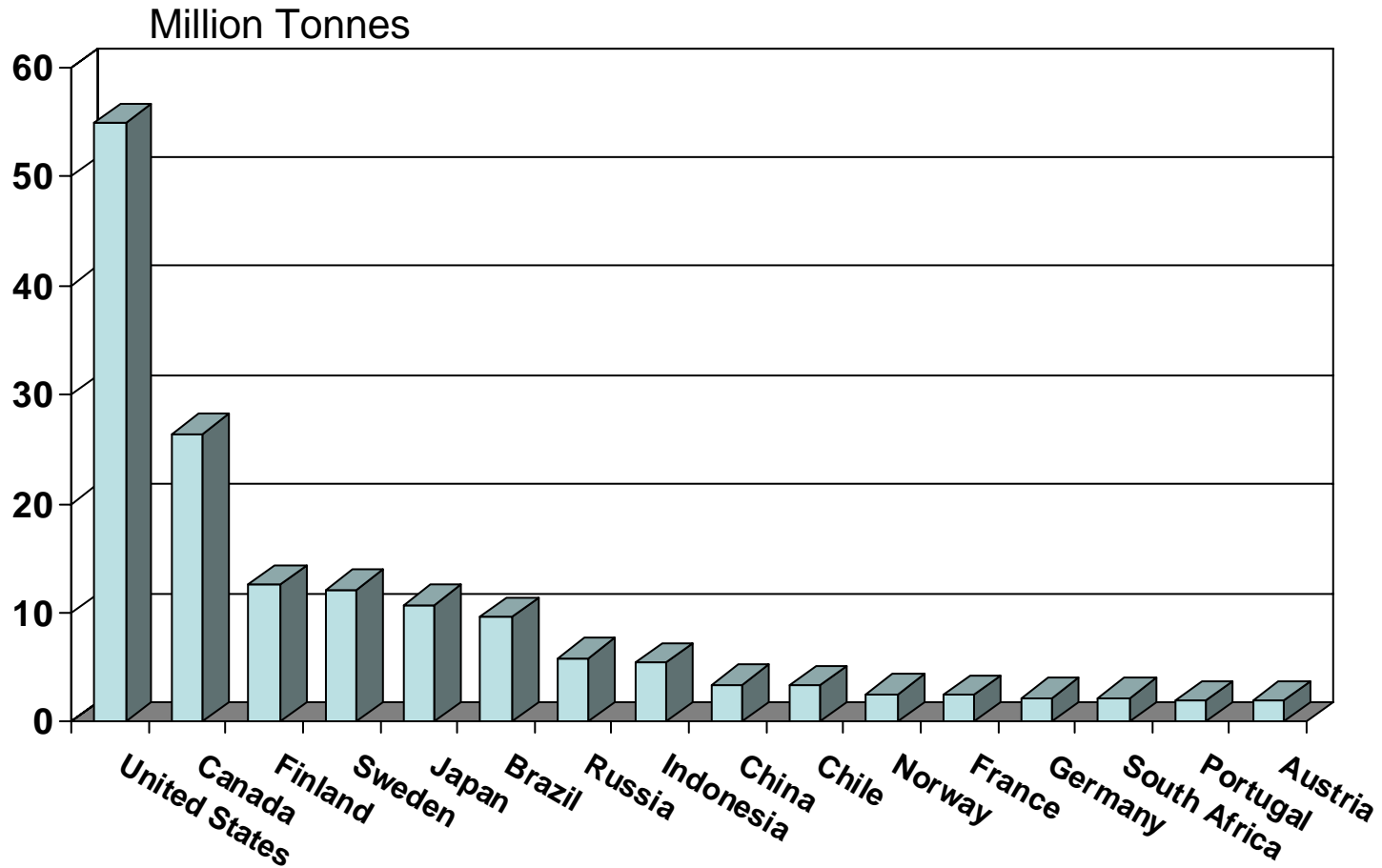
- Original Forest – not previously subject to significant commercial harvest
- Mixed Tropical Hardwoods -- tropical forests (original or being converted)
- Indigenous Plantations – planted with native species
- Exotic Plantations – planted with non-native species
- Managed Natural Regeneration – purposely planned regeneration harvests
- Un-managed Natural Regeneration – not generally associated with management plan

****None of these are necessarily pejorative****

Global Pulp Production

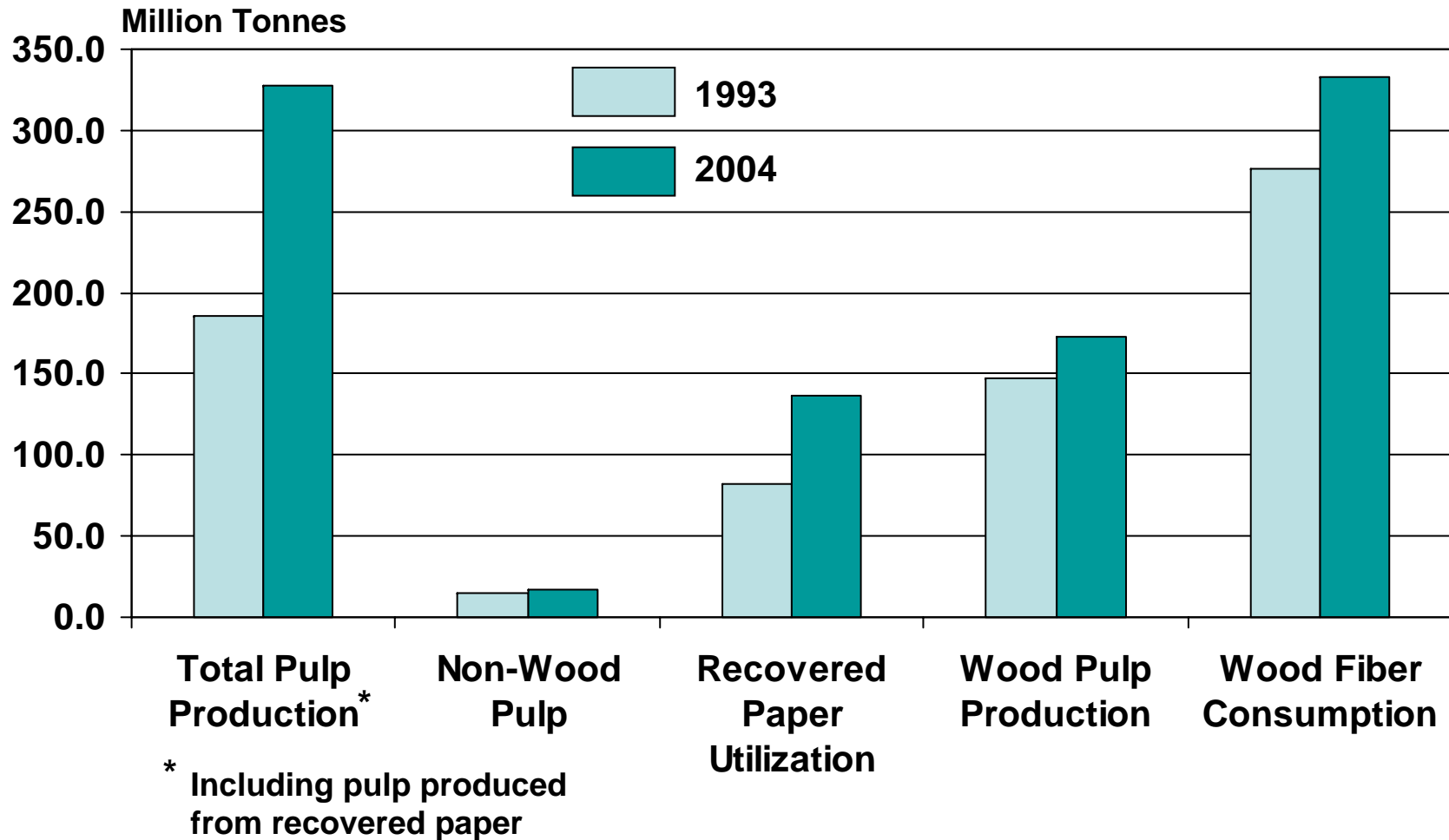


Wood Pulp Production

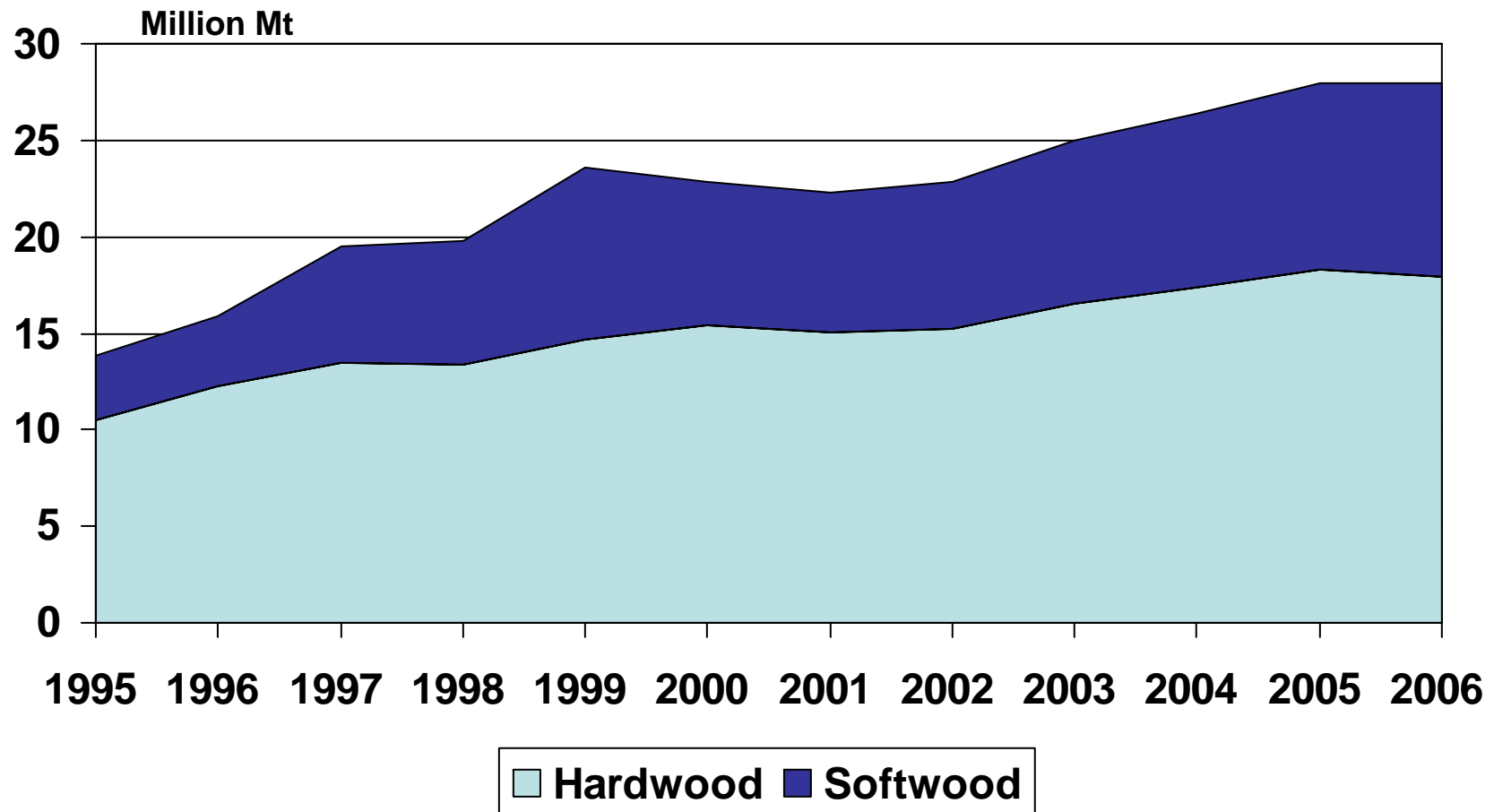


Source: FAO and WRI, Ltd Estimates

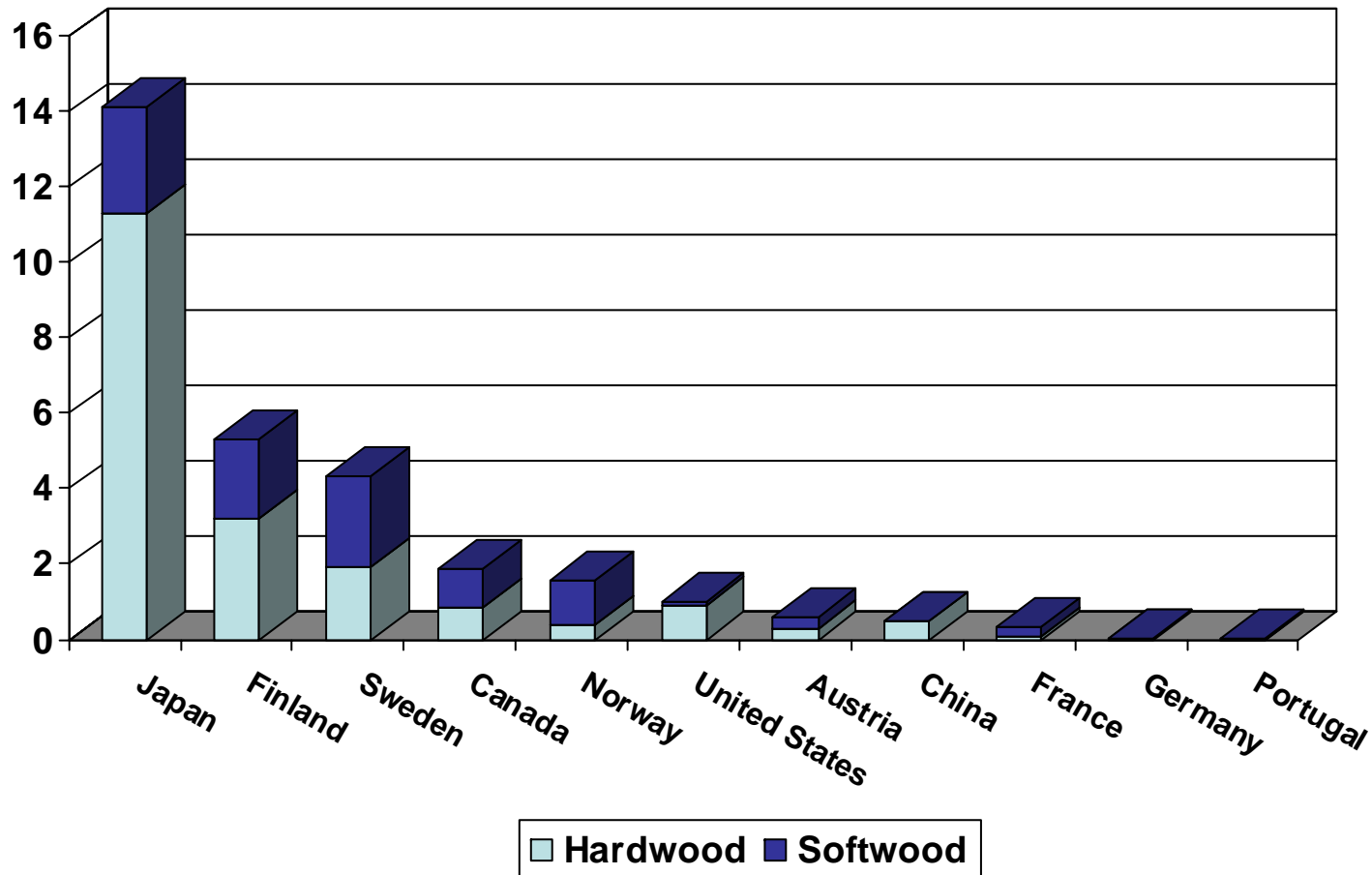
Global Pulp and Fiber Production/Consumption 1993 - 2004



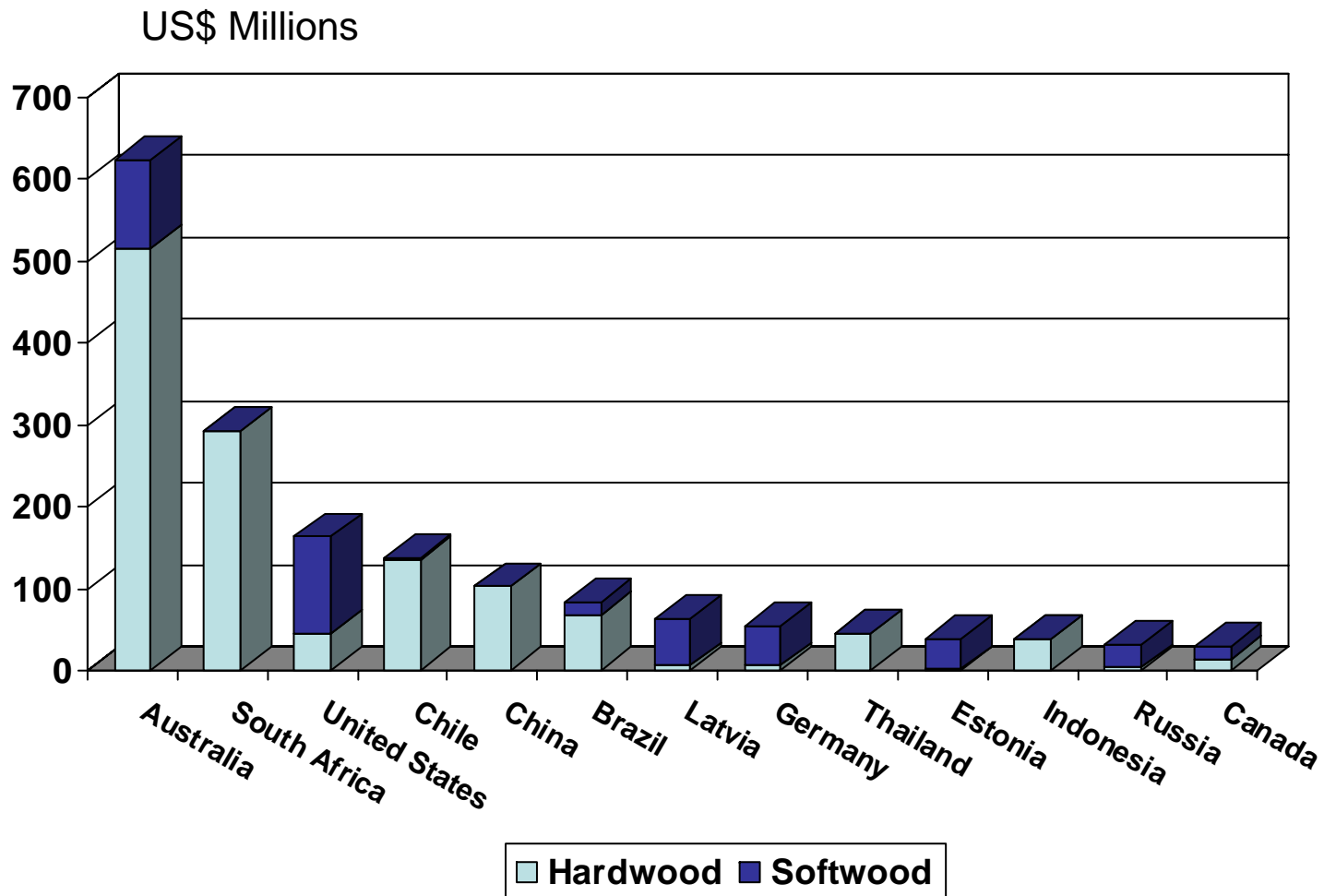
Global Trade in Wood Chips



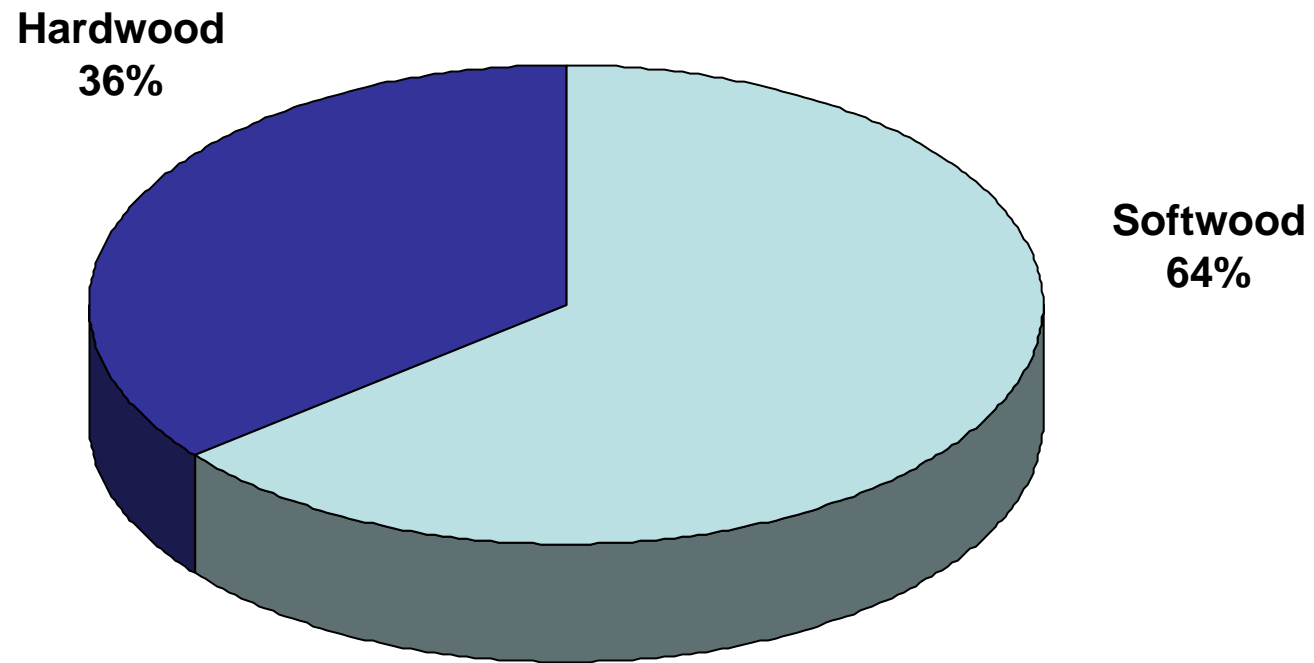
Pulpwood/Chip Imports (2004)



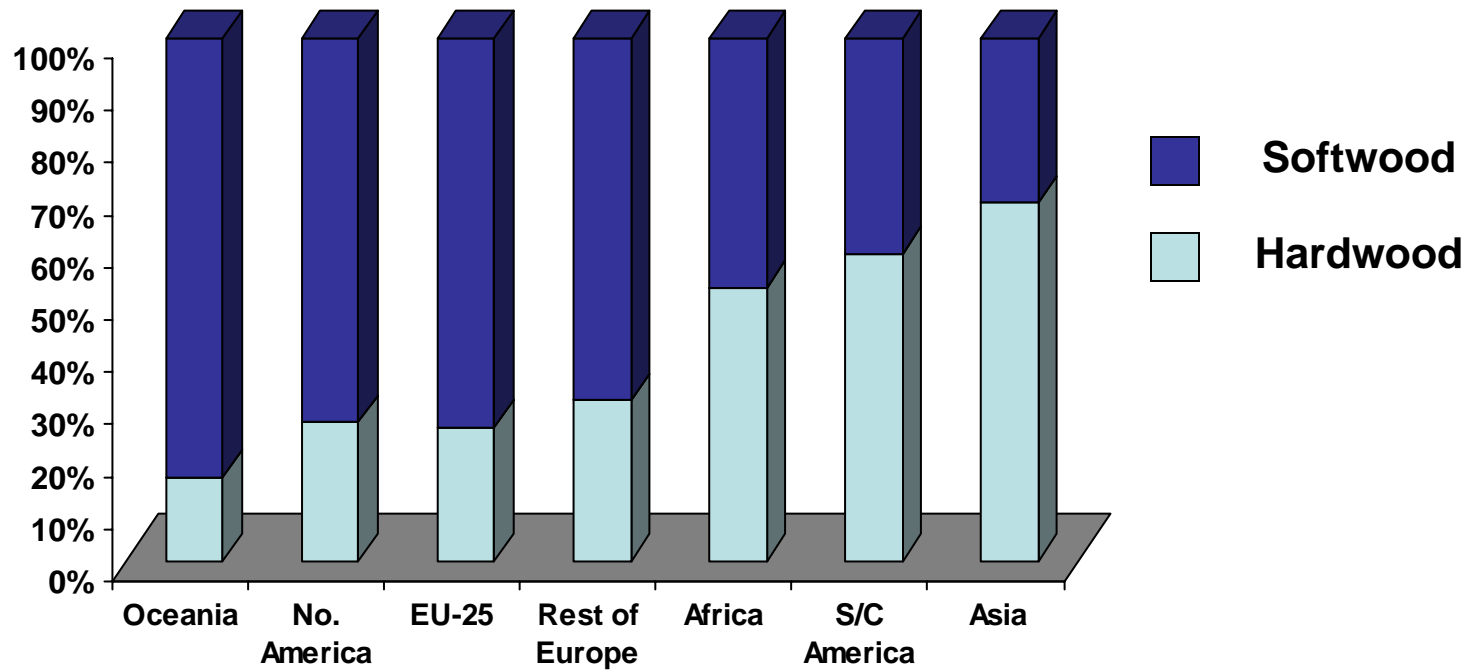
Chip Exports (2004)



Distribution of 2004 Global Wood-Based Pulp Production by Species

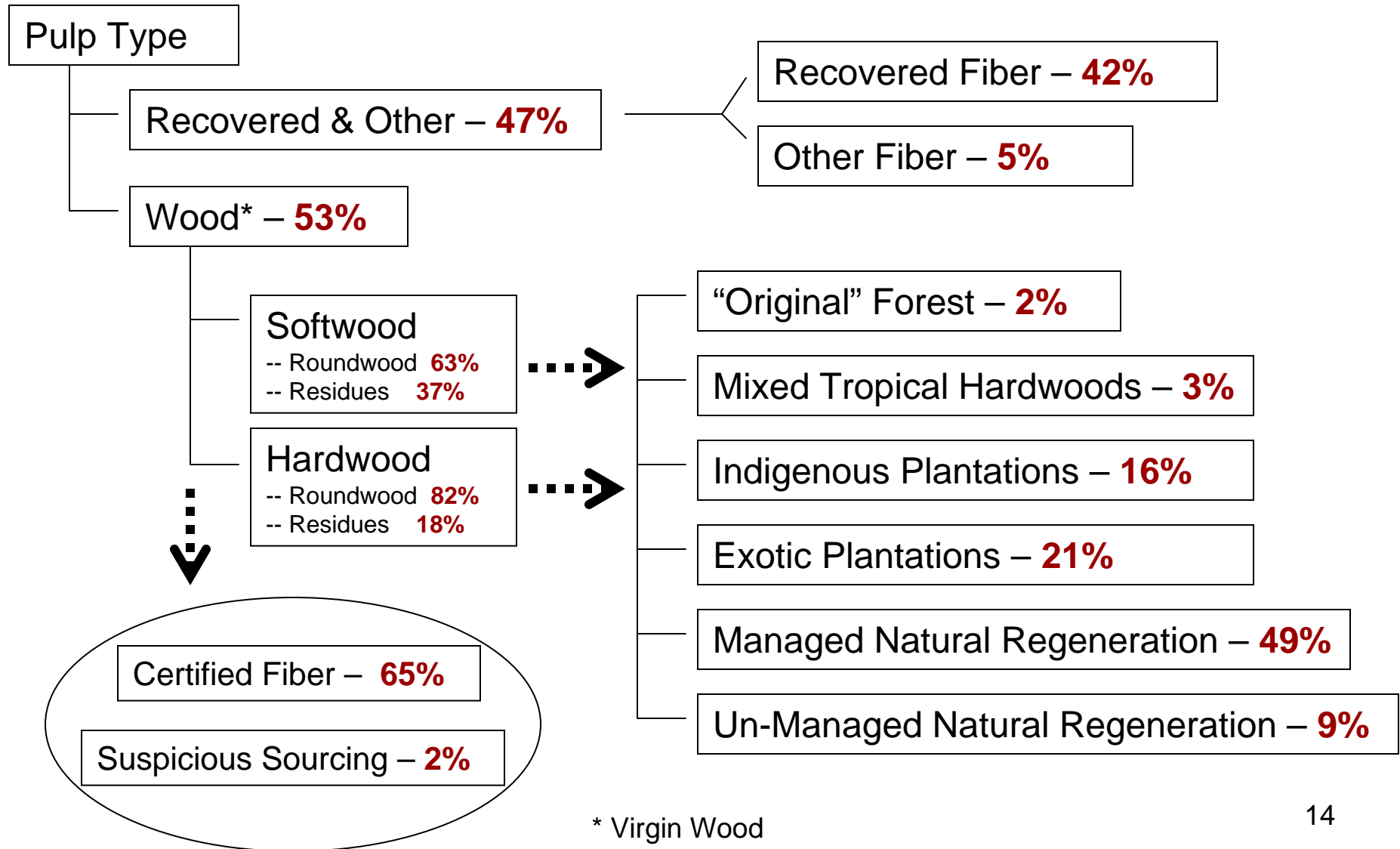


Distribution of 2004 Global Wood-Based Pulp Furnish by Species

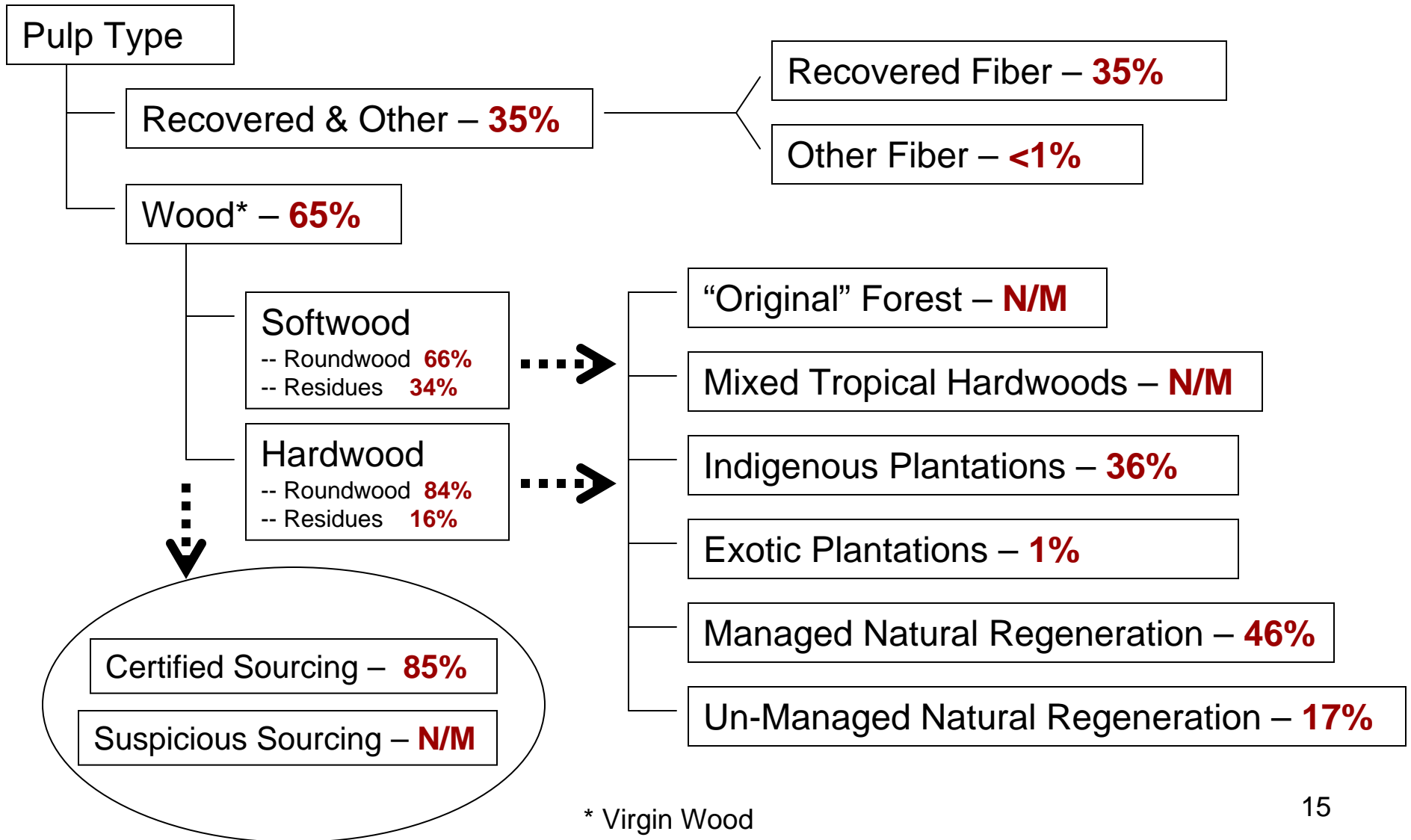


Categorizing Fiber Sourcing

Global Summary (2004)

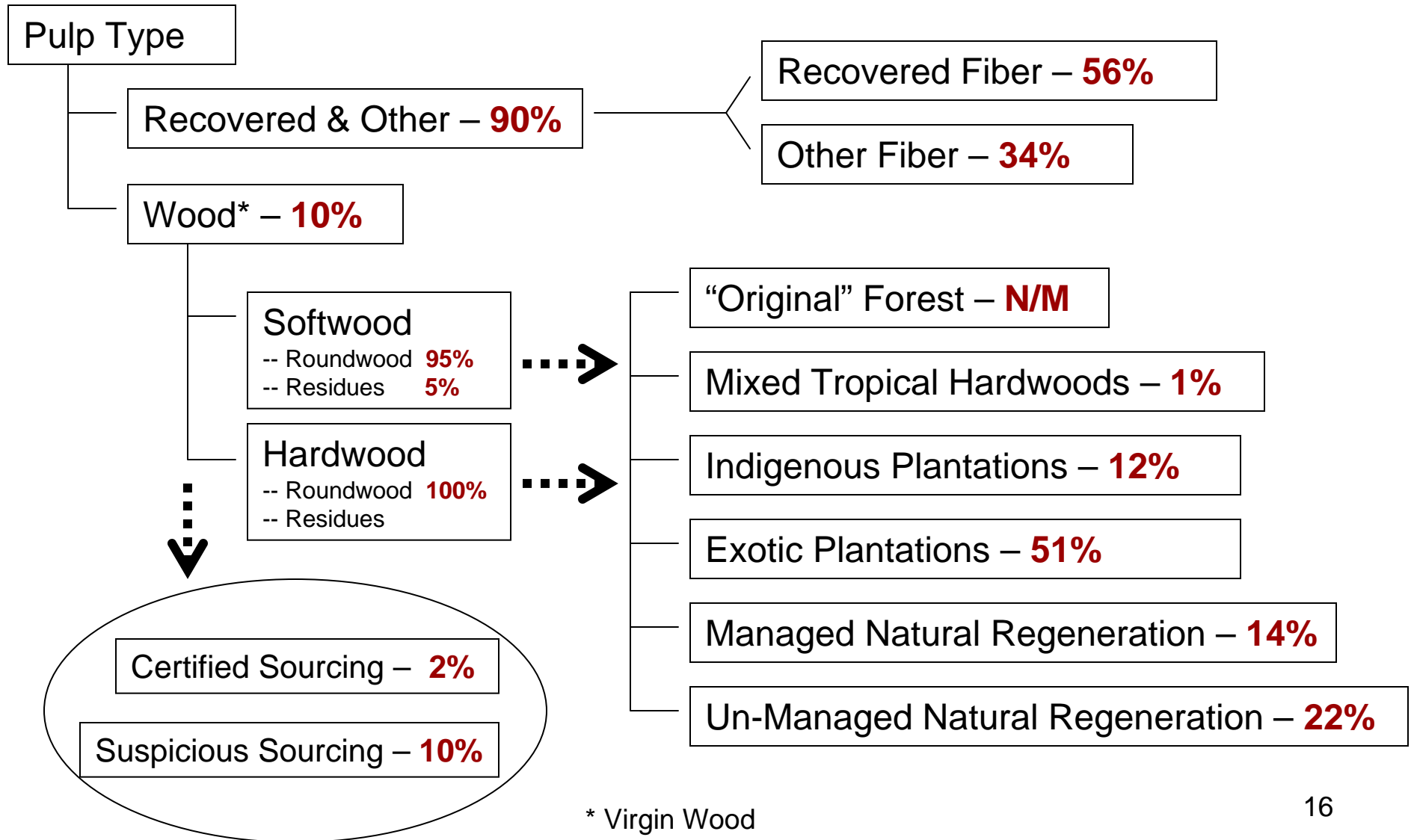


Categorizing Fiber Sourcing US Summary (2004)



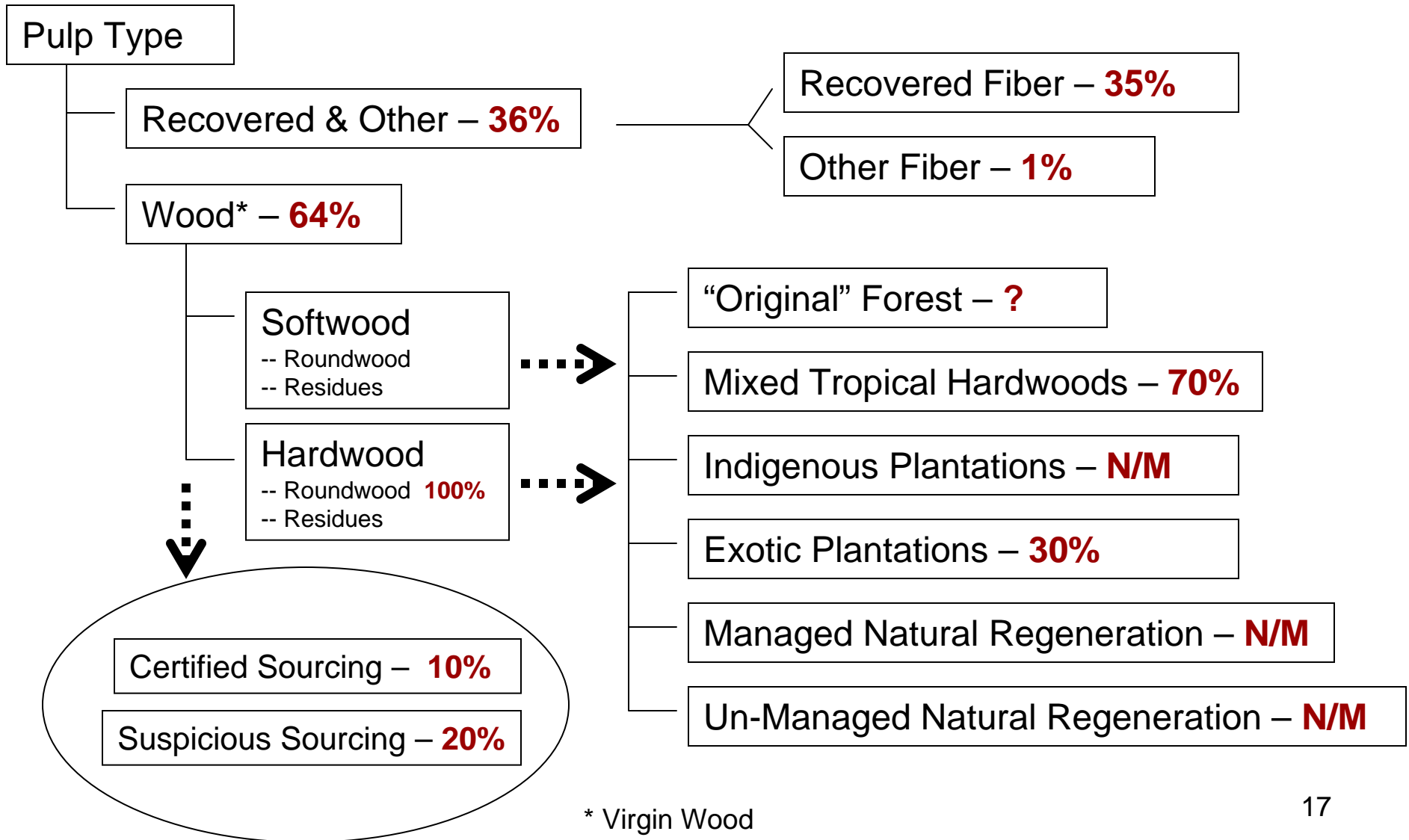
* Virgin Wood

Categorizing Fiber Sourcing China Summary (2004)



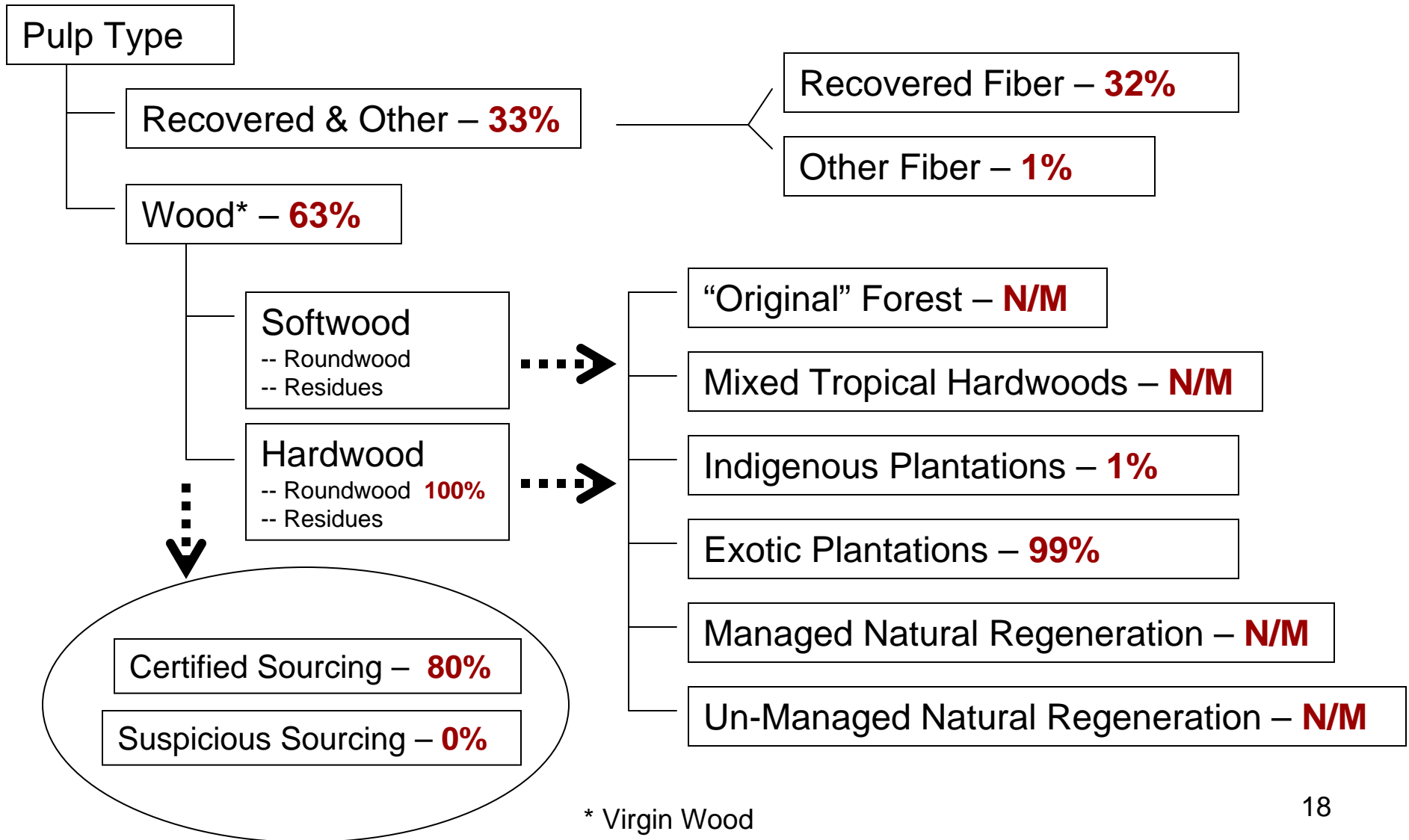
* Virgin Wood

Categorizing Fiber Sourcing Indonesia Summary (2004)



* Virgin Wood

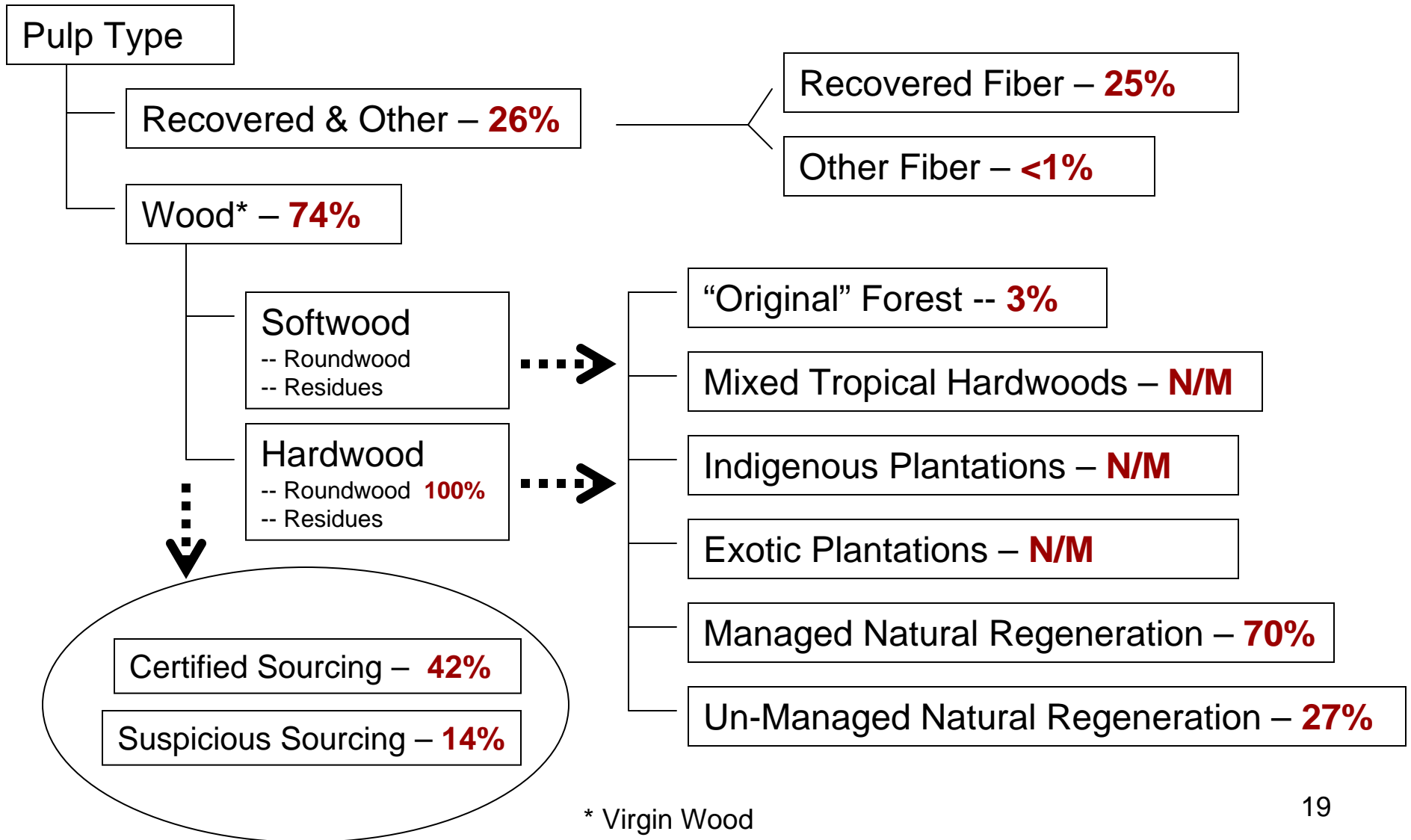
Categorizing Fiber Sourcing Brazil Summary (2004)



* Virgin Wood

Categorizing Fiber Sourcing

Russia Summary (2004)

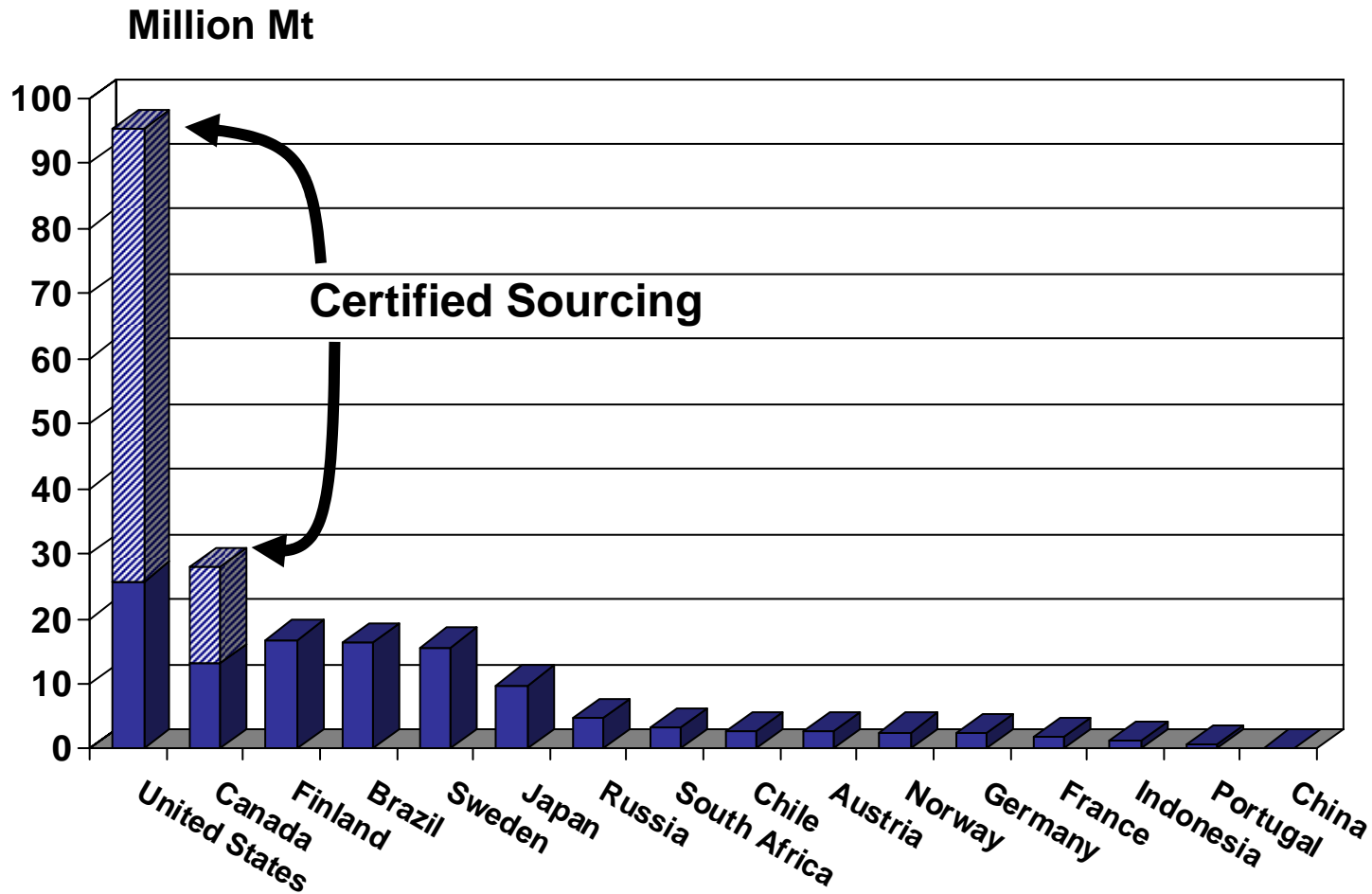


* Virgin Wood

Certified Pulpwood/Pulp

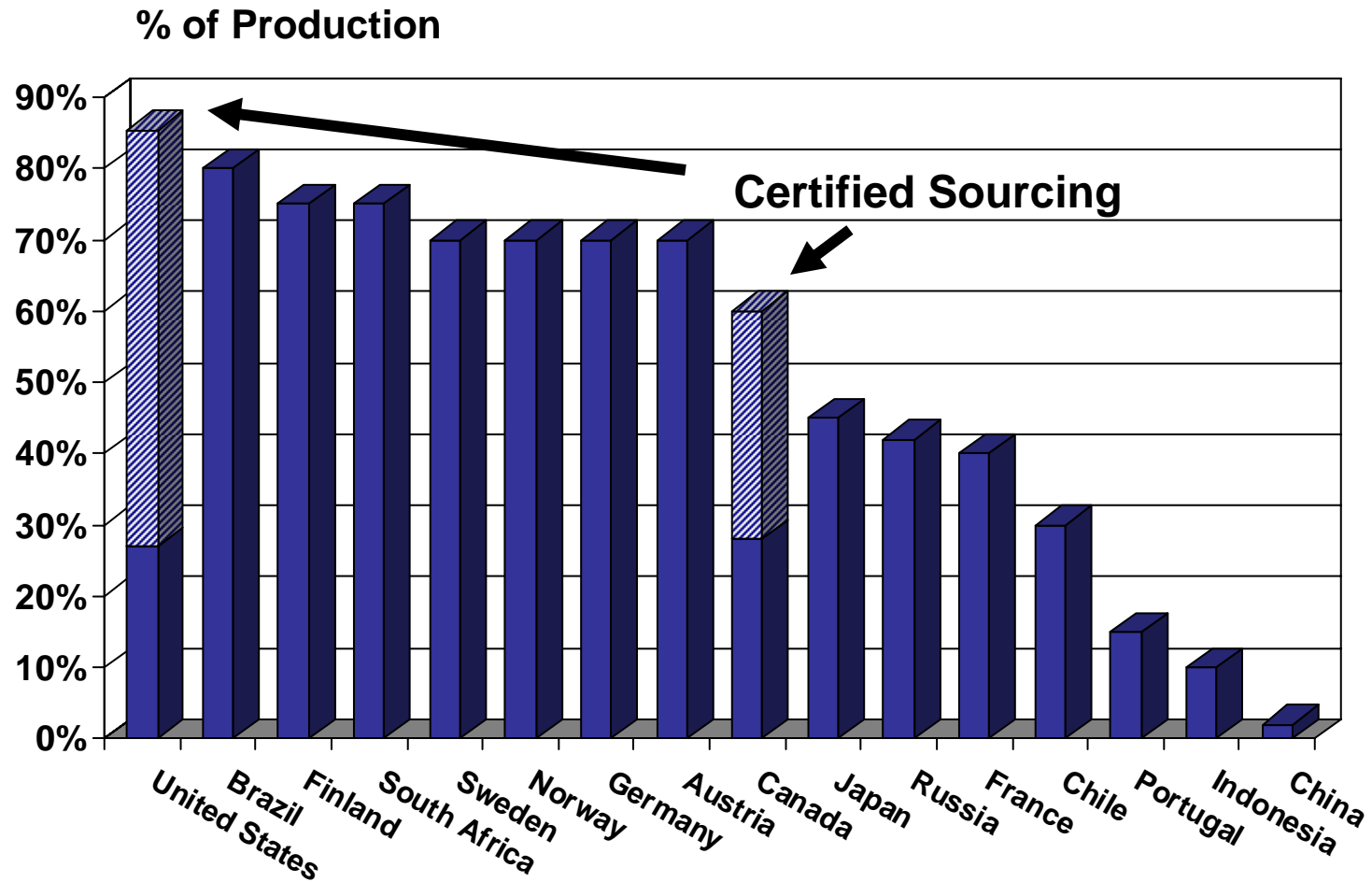
- Large (and growing) share of world pulp market is being certified
- SFI, FSC, PEFC, LEI, CERFLOR and Others
- North America, South America and Europe lead in certification (also S. Africa)
- Based on certified forests and/or certified procurement (SFI)
- Most product is not labeled

Certified Pulpwood/Pulp*



*Based on fiber sourced from certified forests or through certified procurement systems

Certified Pulpwood/Pulp*



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Suspicious Sourcing in Pulp & Paper

- Less of an issue because of plantation fiber, residue use, managed forests
- Countries with issues of suspicious wood fiber supply represent small global share of wood pulp production
- Not a significant issue in some countries where allegations about illegal logging otherwise prevail – i.e. Brazil
- Suspiciously (potentially illegal) procured wood fiber for the pulp and paper industry likely represents less than 2% of the total fiber consumption
- Credible allegations of suspicious wood fiber for the pulp and paper industry in Indonesia, Russia and China are the three major
- However, many producers are complying with existing laws and regulations and have implemented programs to ensure the legality of their supplies

GFPM Modeling*

- Slightly lower world production
- Trade in Pulp & Paper Increases
- Not much change for the US
- Slightly higher world prices

* Buongiorno et al, “Long-term effects of eliminating illegal logging on the world forest industries.” In Process.

Summary

- Since 1993, increase in wood fiber use has been mostly from plantation sources
- Globally, over 85% of wood fiber used to make pulp and paper is from managed forests
- Globally, 65% of wood fiber used for wood pulp is from certified sourcing and/or certified forests
- Suspiciously sourced wood fiber is estimated at 2% globally
 - Mostly an issue where capacity is expanding more rapidly than new fiber supply

Questions??