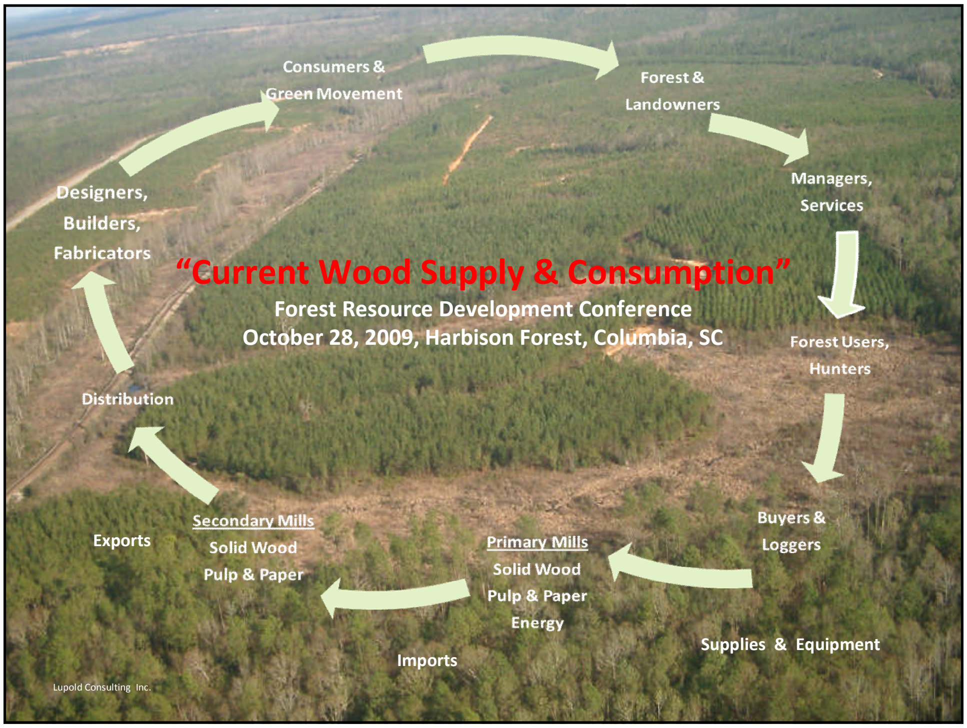
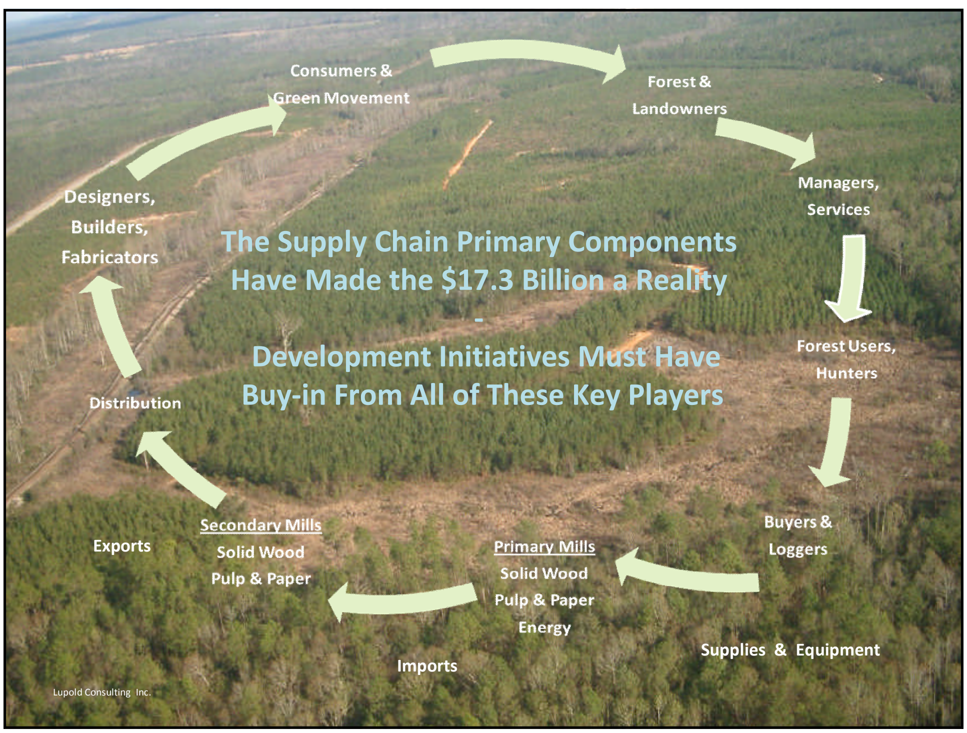

"Current Wood Supply & Consumption"
Forest Resource Development Conference
October 28, 2009, Harbison Forest, Columbia, SC
Consumers & Green Movement
Forest & Landowners
Managers, Services
Forest Users, Hunters
Buyers & Loggers
Supplies & Equipment
Primary Mills
Solid Wood
Pulp & Paper
Energy
Imports
Secondary Mills
Solid Wood
Pulp & Paper
Exports
Distribution
Designers, Builders, Fabricators
Lupold Consulting Inc.


The Supply Chain Primary Components
Have Made the $17.3 Billion a Reality
-
Development Initiatives Must Have
Buy-in From All of These Key Players
Consumers & Green Movement
Forest & Landowners
Managers, Services
Forest Users, Hunters
Buyers & Loggers
Supplies & Equipment
Primary Mills
Solid Wood
Pulp & Paper
Energy
Imports
Secondary Mills
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Exports
Distribution
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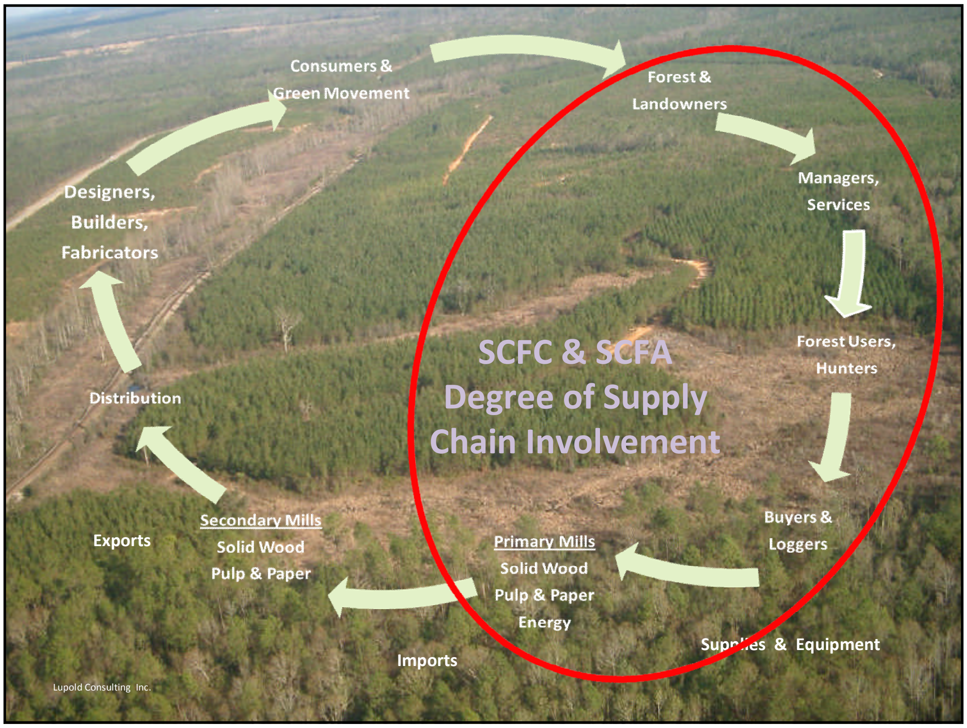
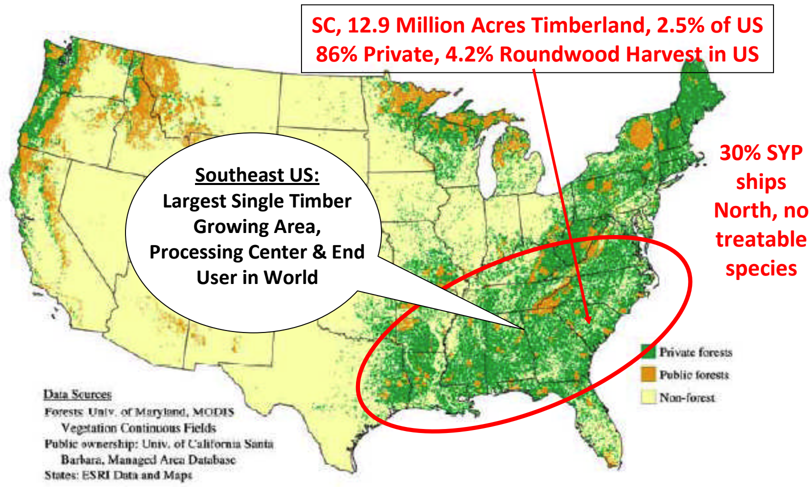

Consumers &
Green Movement
Forest &
Landowners
Managers,
Services
Forest Users,
Hunters
Buyers &
Loggers
Primary Mills
Solid Wood
Pulp & Paper
Energy
Supplies & Equipment
Imports
Secondary Mills
Solid Wood
Pulp & Paper
Exports
Distribution
Designers,
Builders,
Fabricators
SCFC & SCFA
Degree of Supply
Chain Involvement
Lupold Consulting Inc.

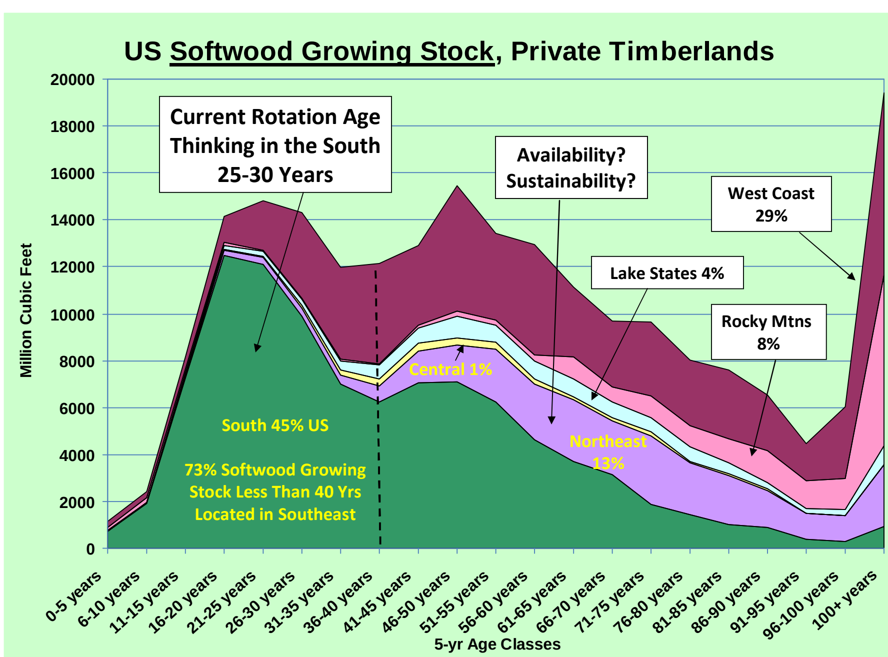

Let's Start With the FOREST!
The $17.3 Billion is because SC has an
Available, Usable Wood Supply
Trees Dictate the Type & Location of
Our Primary Wood-Using Industry
Where are the GAP OPPORTUNITIES?
Lupold Consulting Inc.

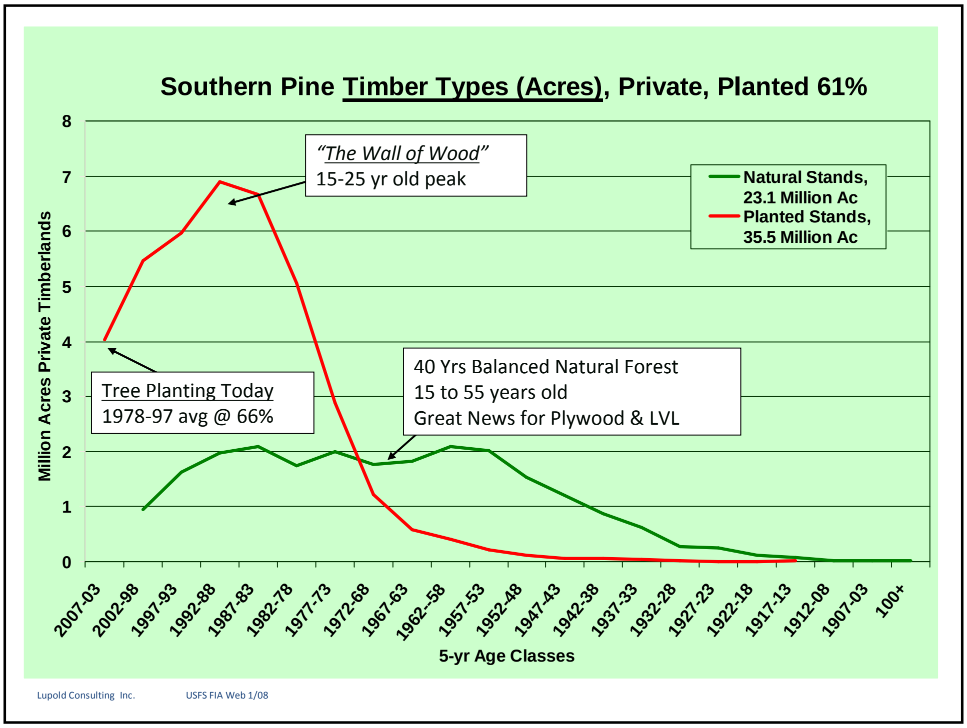
US Forest Timberlands, 513 million Acres, 69% Private, 57% Softwoods

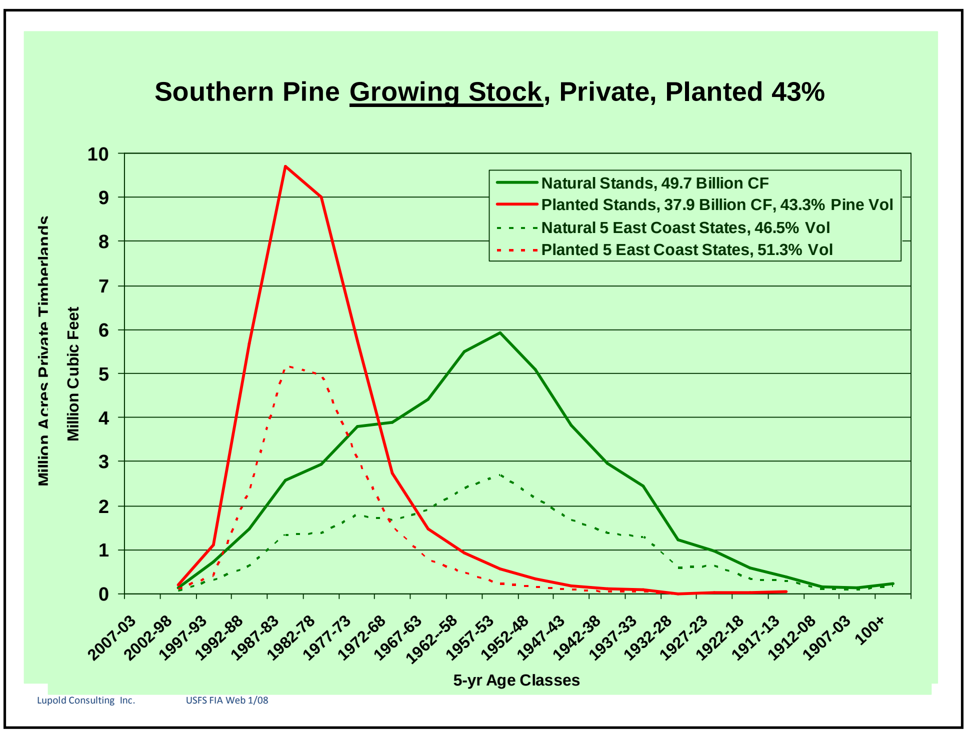
SC, 12.9 Million Acres Timberland, 2.5% of US
86% Private, 4.2% Roundwood Harvest in US

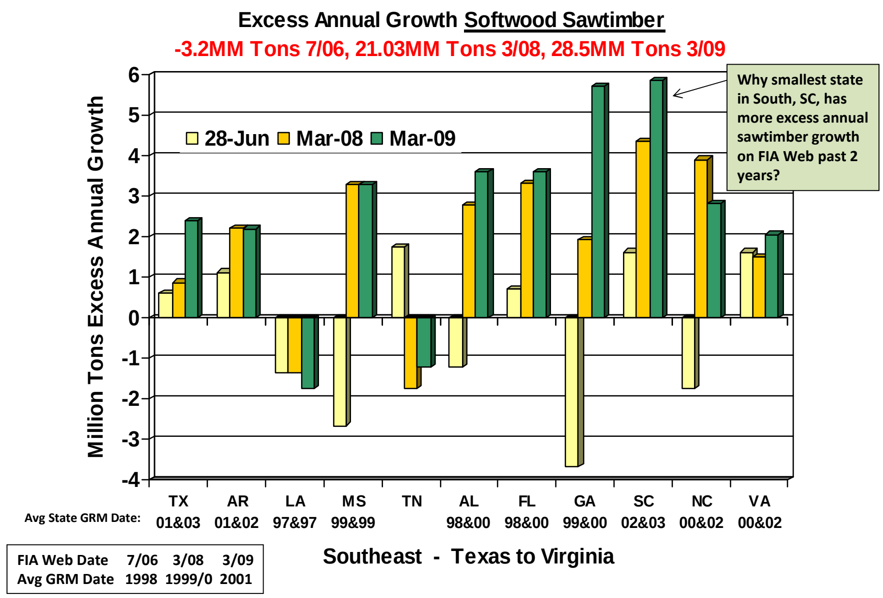


Maryland to Texas; same type land, same tree species, same mills and processes, same consumer products



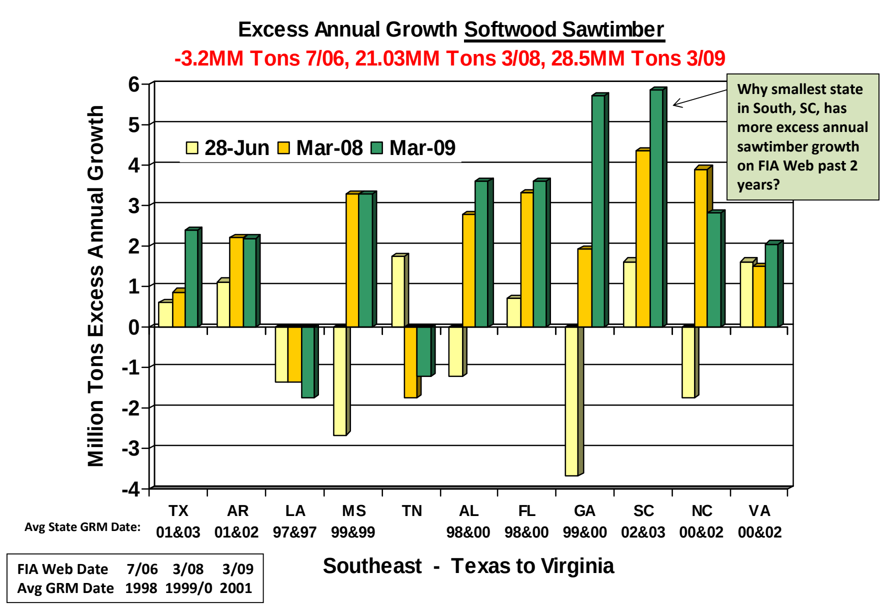

Southern Pine Timber Types (Acres), Private, Planted 61%
Million Acres Private Timberlands
"The Wall of Wood"
15-25 yr old peak
Natural Stands, 23.1 Million Ac
Planted Stands, 35.5 Million Ac
Tree Planting Today
1978-97 avg @ 66%
40 Yrs Balanced Natural Forest
15 to 55 years old
Great News for Plywood & LVL
2007-03 2002-98 1997-93 1992-88 1987-83 1982-78 1977-73 1972-68 1967-63 1962-58 1957-53 1952-48 1947-43 1942-38 1937-33 1932-28 1927-23 1922-18 1917-13 1912-08 1907-03 100+
5-yr Age Classes
Lupold Consulting Inc.
USFS FIA Web 1/08


Southern Pine Growing Stock, Private, Planted 43%
Million Acres Private Timberlands
Million Cubic Feet
Natural Stands, 49.7 Billion CF
Planted Stands, 37.9 Billion CF, 43.3% Pine Vol
Natural 5 East Coast States, 46.5% Vol
Planted 5 East Coast States, 51.3% Vol
2007-03 2002-98 1997-93 1992-88 1987-83 1982-78 1977-73 1972-68 1967-63 1962-58 1957-53 1952-48 1947-43 1942-38 1937-33 1932-28 1927-23 1922-18 1917-13 1912-08 1907-03 100+
5-yr Age Classes
Lupold Consulting Inc.
USFS FIA Web 1/08


Excess Annual Growth Softwood Sawtimber
-3.2MM Tons 7/06, 21.03MM Tons 3/08, 28.5MM Tons 3/09
Million Tons Excess Annual Growth
28-Jun
Mar-08
Mar-09
Why smallest state in South, SC, has more excess annual sawtimber growth on FIA Web past 2 years?
6
5
4
3
2
1
0
-1
-2
-3
-4
TX AR LA MS TN AL FL GA SC NC VA
Avg State GRM Date:
01&03 01&02 97&97 99&99 98&00 98&00 99&00 02&03 00&02 00&02
FIA Web Date 7/06 3/08 3/09
Avg GRM Date 1998 1999/0 2001
Southeast - Texas to Virginia


Consulting Inc.


Lupold Consulting Inc.
11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Million Tons Excess Annual Growth
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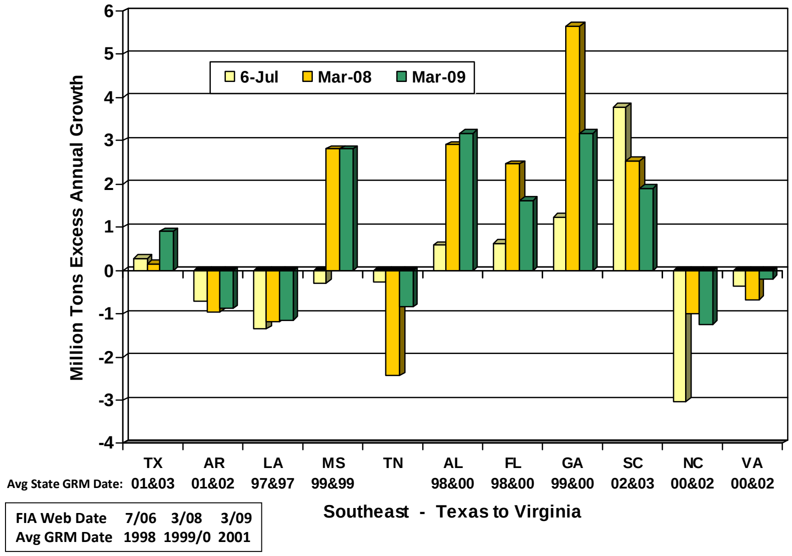
28-Jun
Mar-08
Mar-09
Why smallest state in South, SC, has more excess annual sawtimber growth on FIA Web past 2 years?
Avg State GRM Date:
TX 01&03
AR 01&02
LA 97&97
MS 99&99
TN
AL 98&00
FL 98&00
GA 99&00
SC 02&03
NC 00&02
VA 00&02
Southeast - Texas to Virginia
FIA Web Date 7/06 3/08 3/09
Avg GRM Date 1998 1999/0 2001

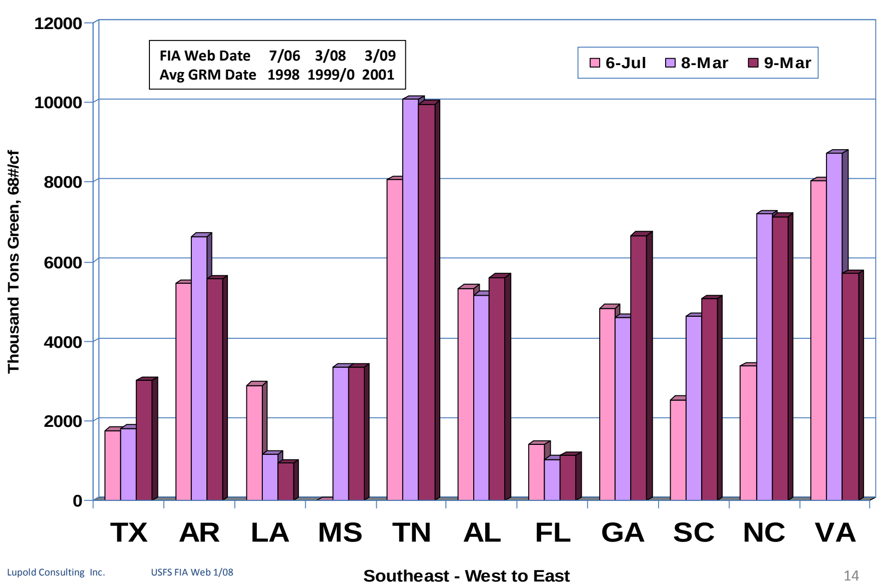
Excess Annual Growth Softwood Pulpwood, FIA Web

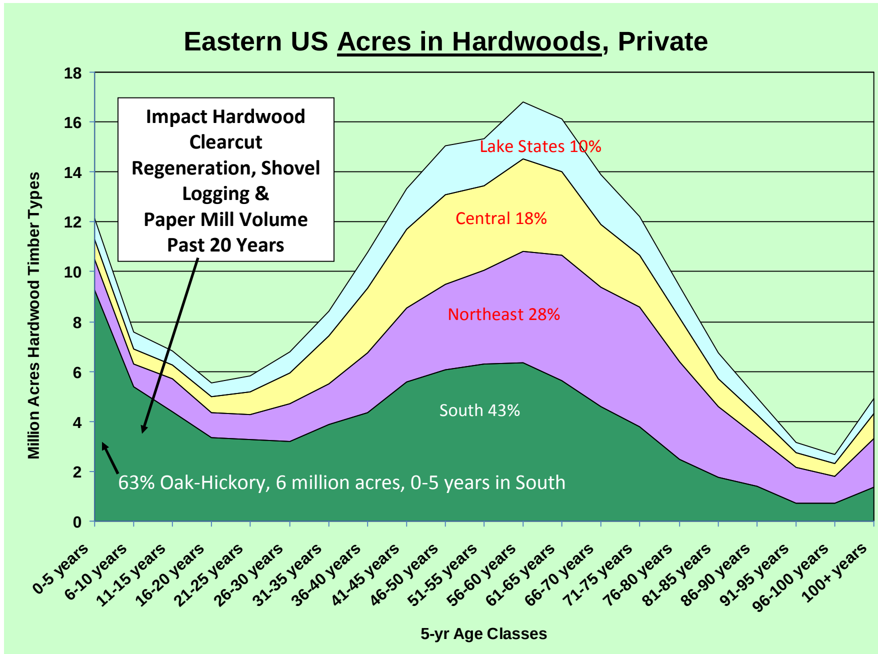
.57MM Tons 7/06, 10.6MM tons 3/08, 9.3MM Tons 3/09

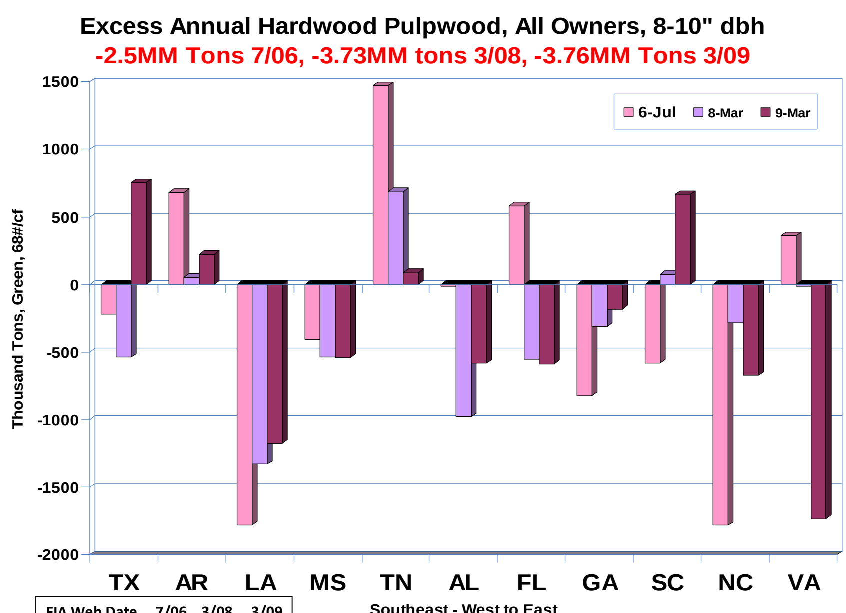


Excess Annual Hardwood Sawtimber, All Ownerships

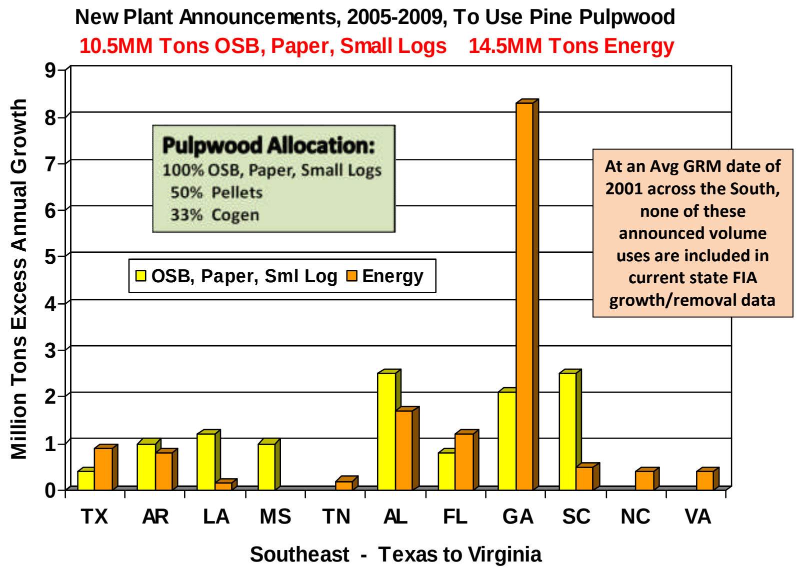
43.2MM Tons 7/06, 54.4 MM Tons 3/08, 54.2MM Tons 3/09







FIA Web Date	7/06	3/08	3/09
Avg GRM Date	1998	1999/0	2001



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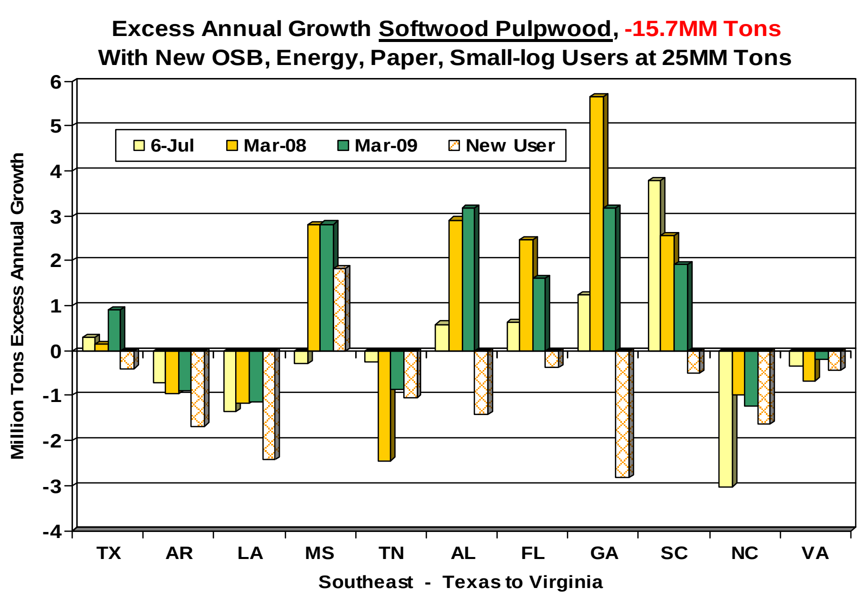

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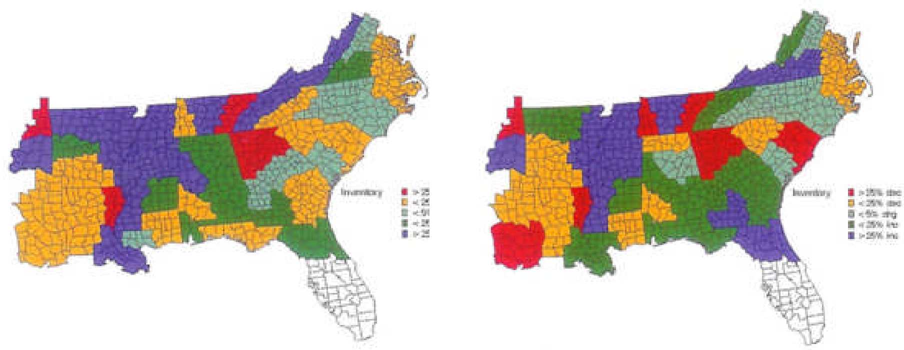
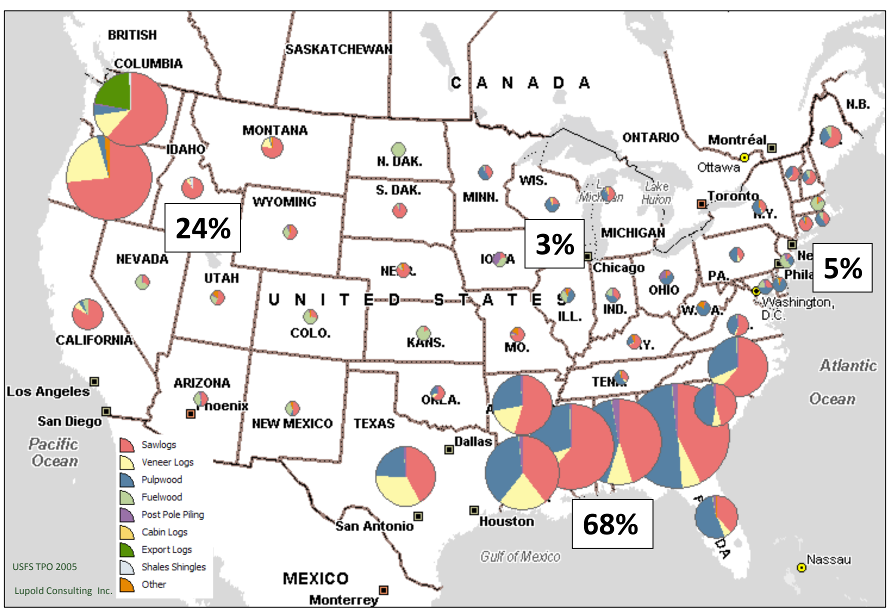
Initial inventory & inventory change from 2005 to 2030 from recession/recession scenario, in terms of percentage change in pine inventory from 2005 to 2030. Forest Products Journal 7-8/2009, By Abt, Cubbage & Abt

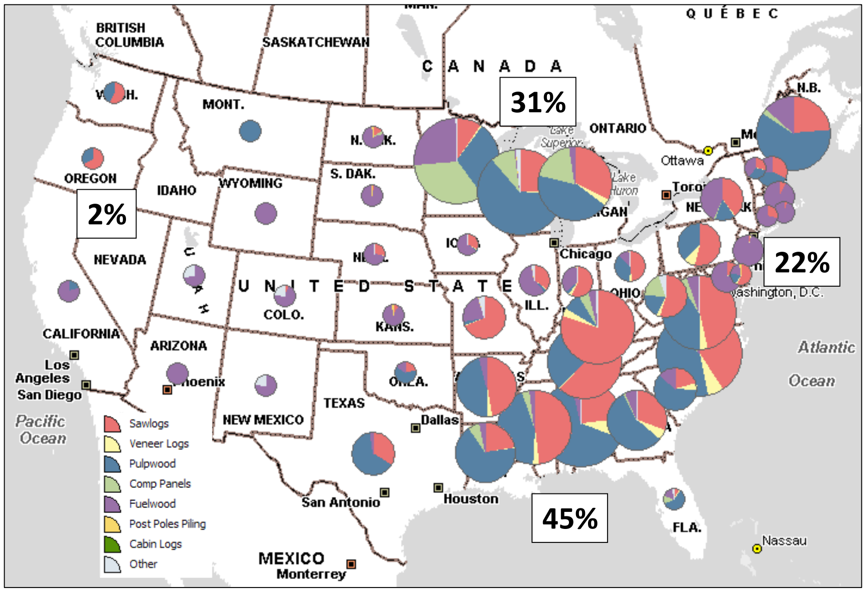


(a) Pine pulpwood inventory change 2005-2030 (c) Pine sawtimber inventory change 2005-2030

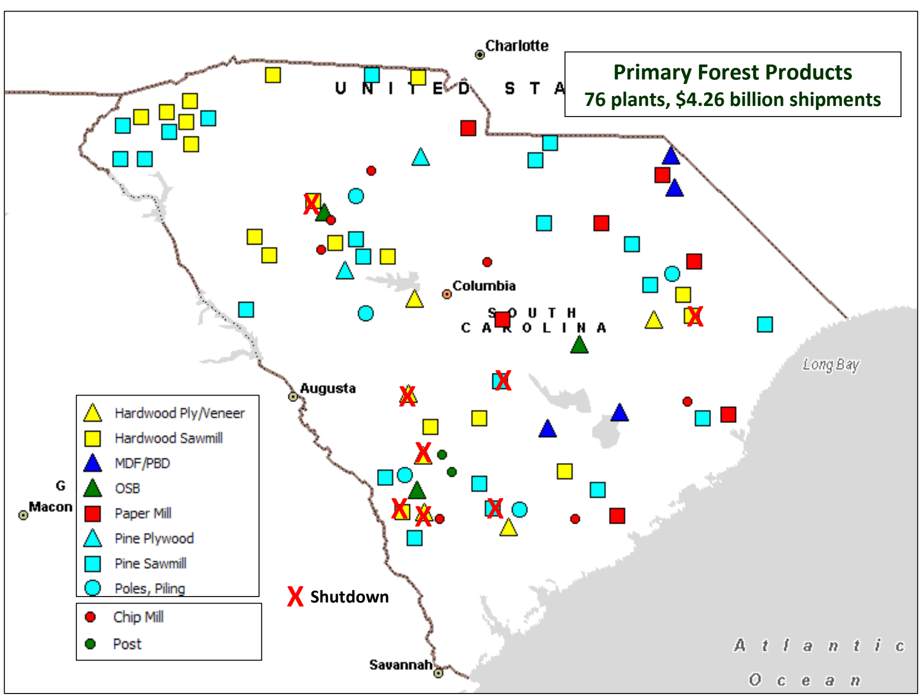
Softwood Products: 317 Million Green Tons; 66% Total US Timber Harvest; South 70%, West 25% & Maine 2.4%; Sawtimber 66%, Pulpwood 33%, Fuel 1%

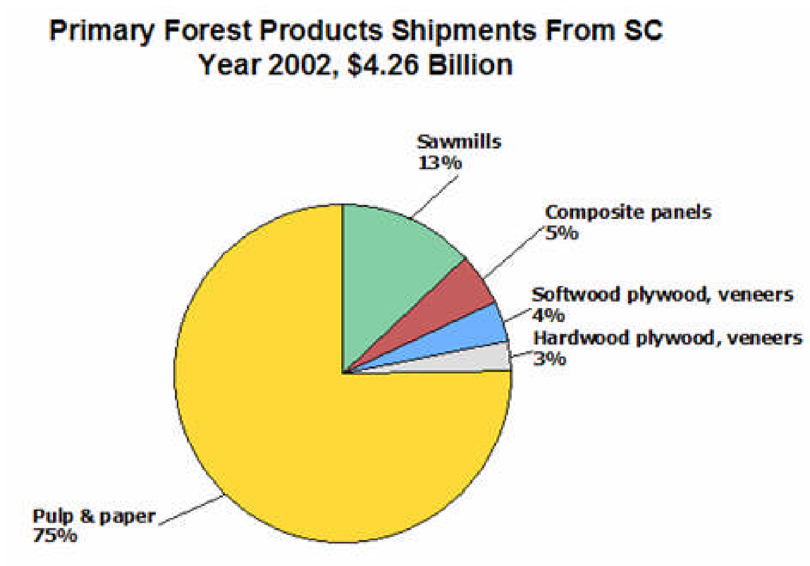


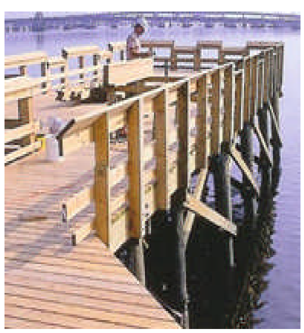
Hardwood Products: 181 Million Green Tons; 36% US Timber Harvest;
MS-AL-GA 17%, MN-WI-MI 15%, ME 4.4%; Sawtimber 40%, Pulpwood 44%, Fuel 16%



Lupold Consulting Inc. USFS TPO 2005







Over 42% Southern Pine treated

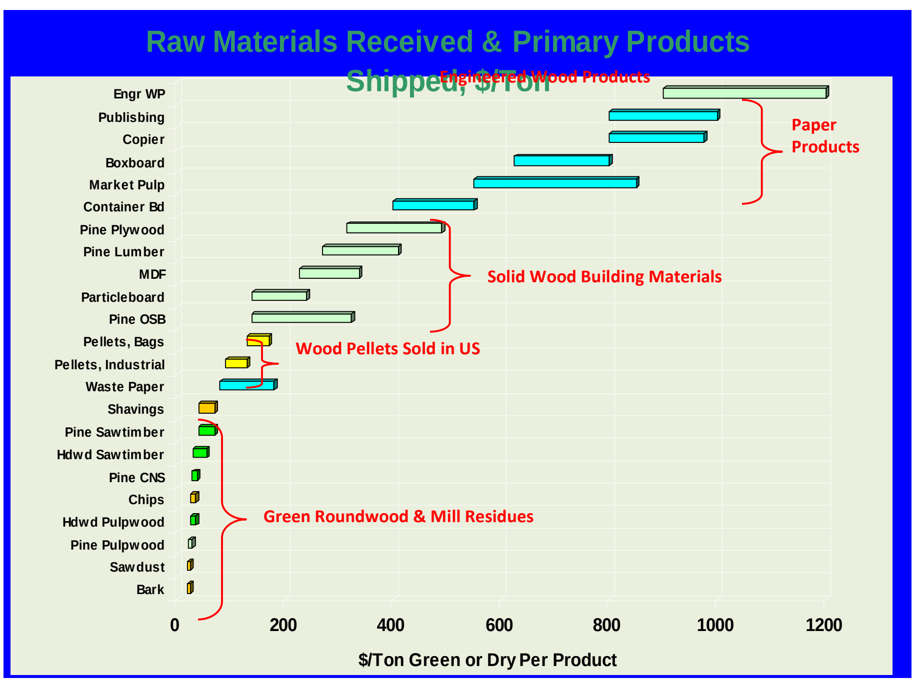
26% SYP used in trusses & EWP Systems

1” boards (4%)
industrial (18%)
framing (10%)

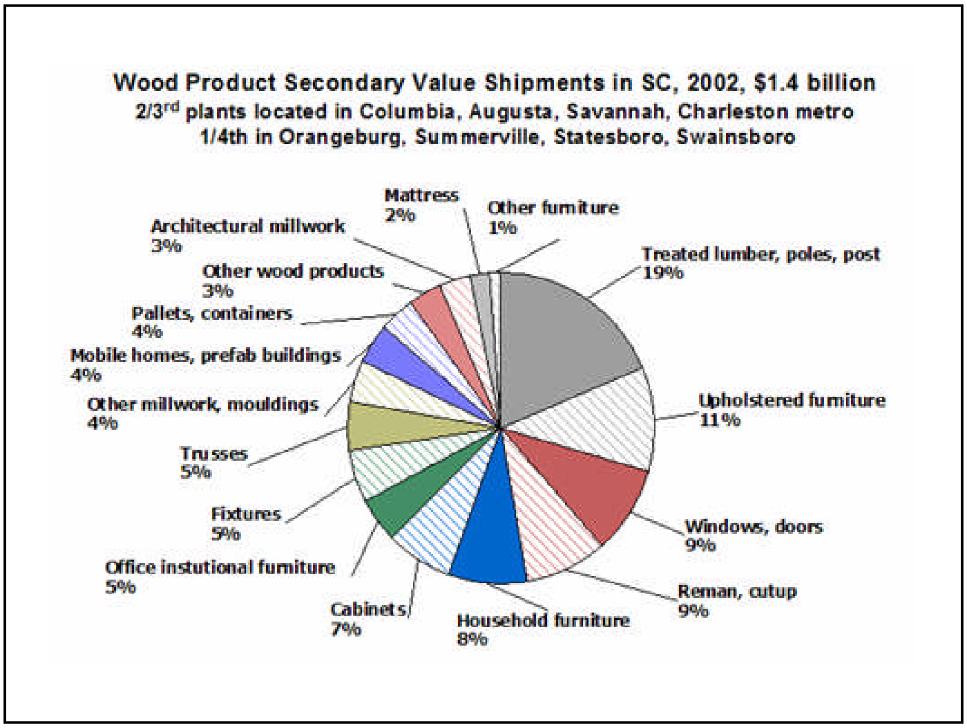
85-90% LUMBER & PANELS SHIP TO SECONDARY USERS
-
70-75% SHIPS OUT-OF-STATE

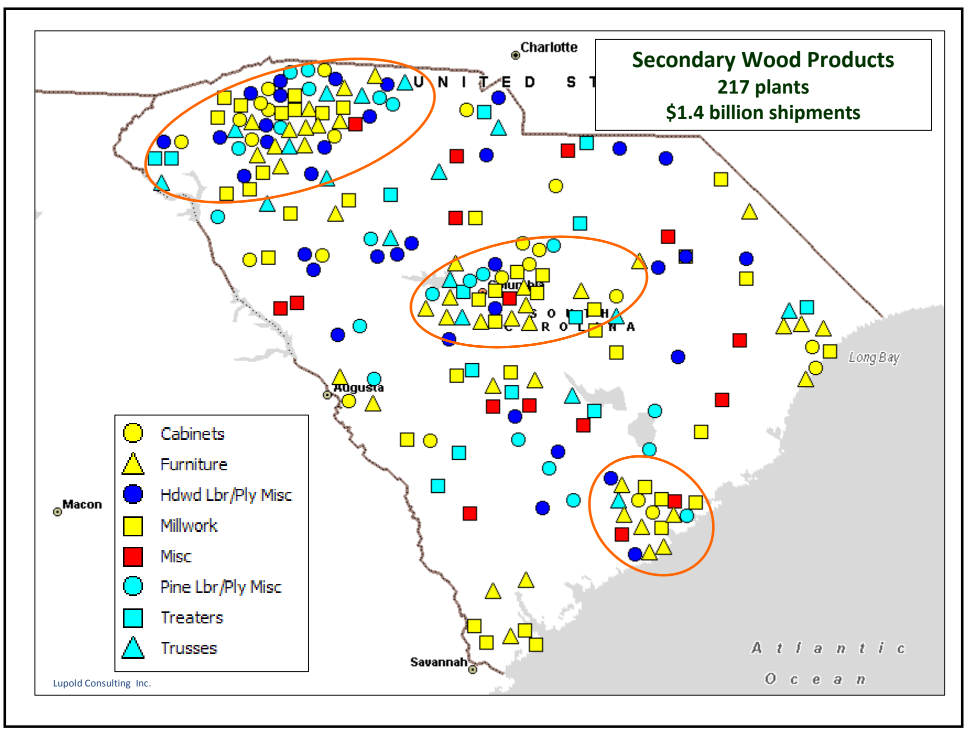
SFPA

Single & Multifamily Housing Starts
Million Annual Starts
2.5
2
1.5
1
0.5
0
1978
1993
2008



Raw Materials Received & Primary Products Shipped, $/Ton
Engineered Wood Products
Engr WP
Publisbing
Copier
Boxboard
Market Pulp
Container Bd
Pine Plywood
Pine Lumber
MDF
Particleboard
Pine OSB
Pellets, Bags
Pellets, Industrial
Waste Paper
Shavings
Pine Sawtimber
Hdwd Sawtimber
Pine CNS
Chips
Hdwd Pulpwood
Pine Pulpwood
Sawdust
Bark
Paper Products
Solid Wood Building Materials
Wood Pellets Sold in US
Green Roundwood & Mill Residues
0
200
400
600
800
1000
1200
$/Ton Green or Dry Per Product


Wood Product Secondary Value Shipments in SC, 2002, $1.4 billion
2/3rd plants located in Columbia, Augusta, Savannah, Charleston metro
1/4th in Orangeburg, Summerville, Statesboro, Swainsboro
Mattress 2%
Other furniture 1%
Architectural millwork 3%
Treated lumber, poles, post 19%
Other wood products 3%
Pallets, containers 4%
Mobile homes, prefab buildings 4%
Upholstered furniture 11%
Other millwork, mouldings 4%
Trusses 5%
Fixtures 5%
Windows, doors 9%
Office instutional furniture 5%
Reman, cutup 9%
Cabinets 7%
Household furniture 8%


Secondary Wood Products
217 plants
$1.4 billion shipments
Charlotte
UNITED ST
SOUTH CAROLINA
Augusta
Macon
Savannah
Long Bay
Atlantic Ocean
Cabinets
Furniture
Hdwd Lbr/Ply Misc
Millwork
Misc
Pine Lbr/Ply Misc
Treaters
Trusses
Lupold Consulting Inc.

RISI | PPI PULP&PAPER WEEK

PULP AND PAPER MARKET NEWS FOR NORTH AMERICA

IP bites the bullet on permanent capacity shuts -- closing Franklin, Pineville, Albany white paper, linerboard mills

Responding to the major drop in US demand since last fall and a slow economic recovery, International Paper (IP) yesterday announced permanent US capacity closures totaling 2.1 million tons or 13% of the company's total global capacity of 16 million tons/yr.

US newsprint market splinters as hikes make patchwork progress -- $480/tonne in the East, $465/tonne out West

The two largest North American newsprint producers, AbitibiBowater and White Birch, told customers this week they plan to increase the price of 30-lb newsprint another $50/tonne in two monthly installments of $25/tonne on Nov. 1 and Dec. 1.

Global pulp stock continues 8-month fall, fuels new price hikes as BEK, NBSK majors slate $30-50/tonne increases

Global market pulp inventories declined again at the end of September for the eighth straight month, leading producers to propose a flurry of price increases for November on northern bleached softwood (NBSK) and bleached eucalyptus (BEK) market pulp.

Publication Papers

Fourth quarter pickup in demand helps order books; price hike proposals fail

North American mills that supply commercial printers with paper for magazines and catalogs are having a relatively strong fourth quarter, contacts said this week.

Tissue

K-C reports 15% margin for year so far; keeps focus on brand 'innovative' products

Despite the global economic downturn in the last year, Kimberly-Clark (K-C) produced record net income in the third quarter behind lower input costs and higher selling prices.

Containerboard

US containerboard market may be ready for a turn -- with any box order uptick

Bleached Paperboard

SBS demand relatively unchanged, prices hold

The North American bleached paperboard market in October remained virtually the same as it was the past few months – with

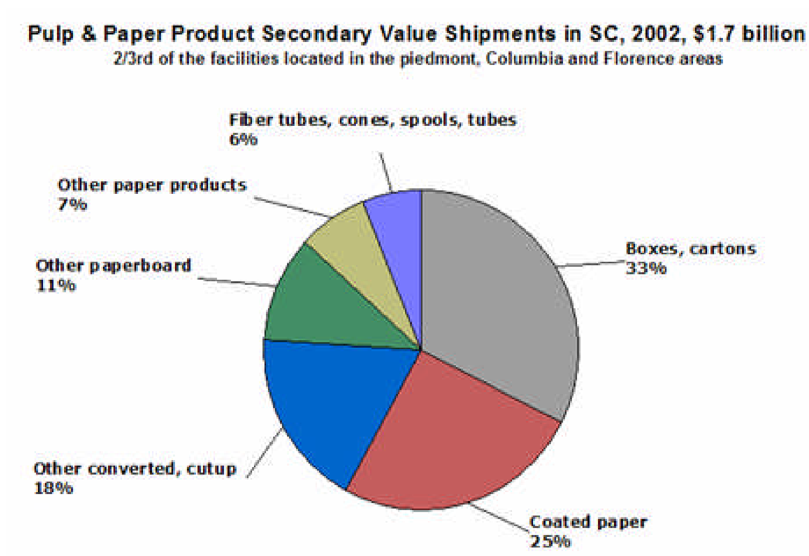
Black Liquor Fuel Credits ?

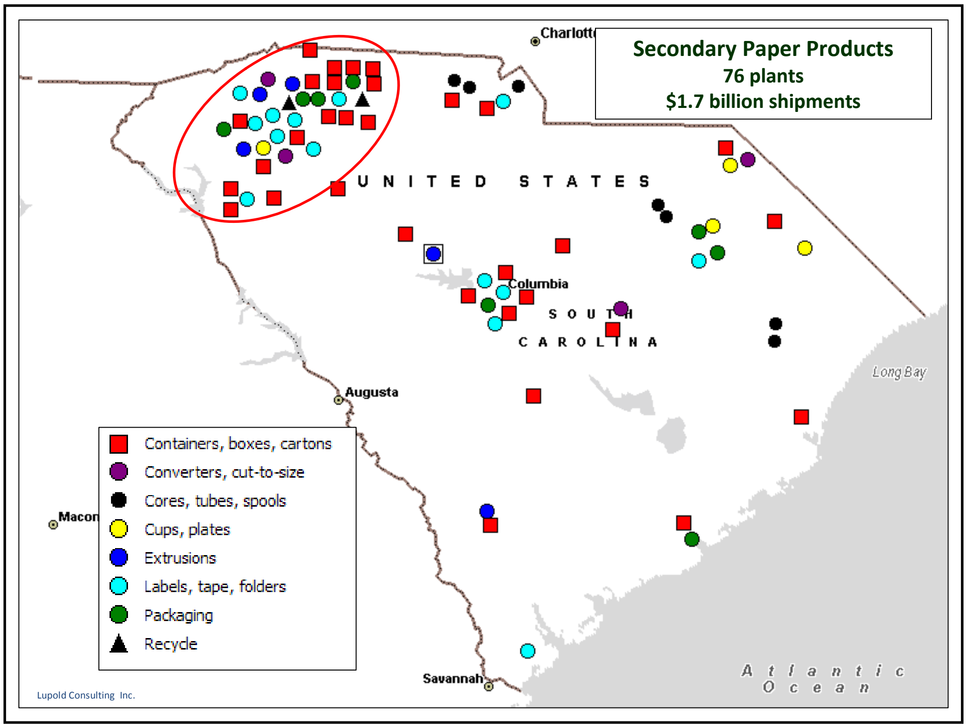
Pulpwood Use in SC

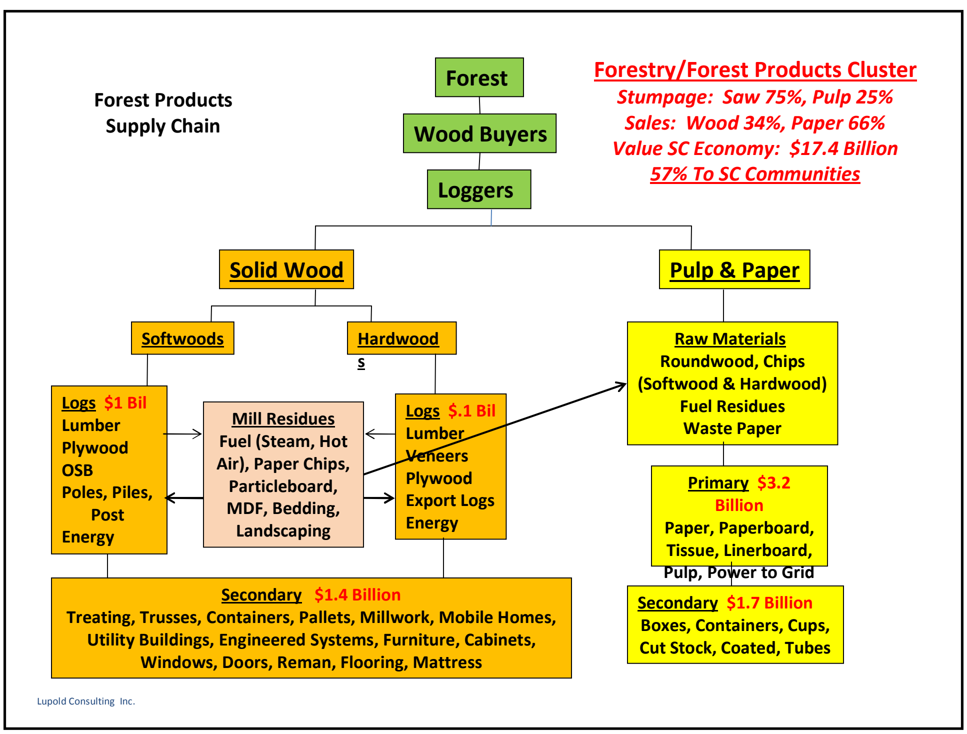
1980's 13.5 million tons annually

1990's 14.95

2000-5 15.1 2006 15.98




Secondary Paper Products
76 plants
$1.7 billion shipments
Charlotte
UNITED STATES
Columbia
SOUTH CAROLINA
Augusta
Macon
Savannah
Long Bay
Atlantic Ocean
Containers, boxes, cartons
Converters, cut-to-size
Cores, tubes, spools
Cups, plates
Extrusions
Labels, tape, folders
Packaging
Recycle
Lupold Consulting Inc.


Forest Products
Supply Chain
Forest
Wood Buyers
Loggers
Forestry/Forest Products Cluster
Stumpage: Saw 75%, Pulp 25%
Sales: Wood 34%, Paper 66%
Value SC Economy: $17.4 Billion
57% To SC Communities
Solid Wood
Pulp & Paper
Softwoods
Hardwoods
Logs $1 Bil
Lumber
Plywood
OSB
Poles, Piles, Post
Energy
Mill Residues
Fuel (Steam, Hot Air), Paper Chips, Particleboard, MDF, Bedding, Landscaping
Logs $.1 Bil
Lumber
Veneers
Plywood
Export Logs
Energy
Raw Materials
Roundwood, Chips
(Softwood & Hardwood)
Fuel Residues
Waste Paper
Primary $3.2 Billion
Paper, Paperboard, Tissue, Linerboard, Pulp, Power to Grid
Secondary $1.4 Billion
Treating, Trusses, Containers, Pallets, Millwork, Mobile Homes, Utility Buildings, Engineered Systems, Furniture, Cabinets, Windows, Doors, Reman, Flooring, Mattress
Secondary $1.7 Billion
Boxes, Containers, Cups, Cut Stock, Coated, Tubes
Lupold Consulting Inc.


9-12 month old tops bundled in Sweden,
80-yr Rotation
Multiple Operations:
Fell & bunch
Forward logs, truck
Bundle tops
Forward bundles, truck
Pull stumps
1-2 years forward stumps
Chip stumps, truck
Hardwood brush cut & forward
Chip hardwood yr later, truck
Lupold Consulting, Inc.


Swedish home electricity: $.21 US/kw
Wood fuel $50 to 100 US/ton (Kr/kw)
Same 3 Times Ratio as US

Summary Recent USFS/SCFC Study To Determine SC Biomass Fuel Available

Types and volumes currently being utilized:

Mill Residues	**6,000,000 green tons**
Paper & Wood Recycled	**1,000,000**
Logging Residues	**600,000**

Volume not being utilized:

Standing residuals after harvest, 9 tons/acre:

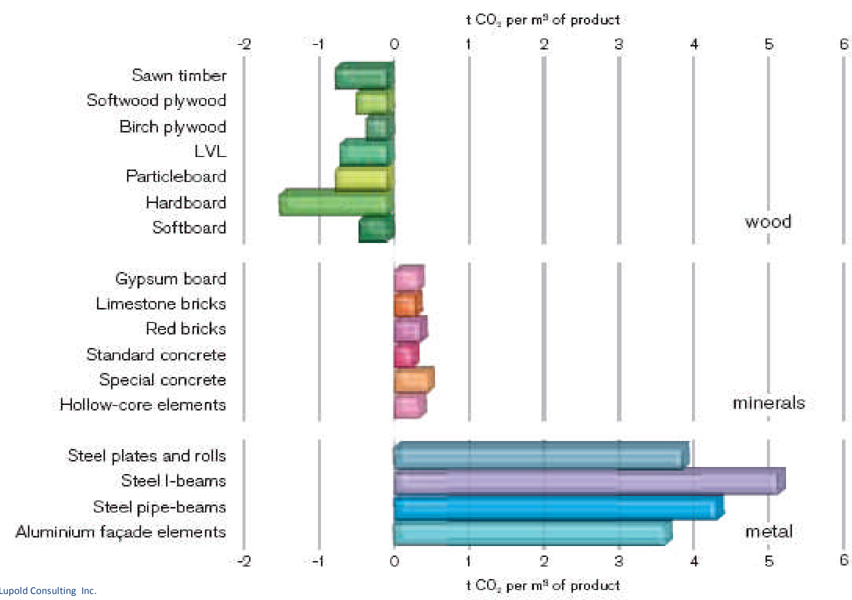
412,500 acres annually (3.2% SC forest)   3,740,000 green tons

Recoverable logging residues at 60%, 11 tons/acre:

35% >5” dbh, 65% <5” dbh   4,532,000 green tons

Total not utilized: 8.3 million tons annually

Tools are available to measure CO_2 impacts



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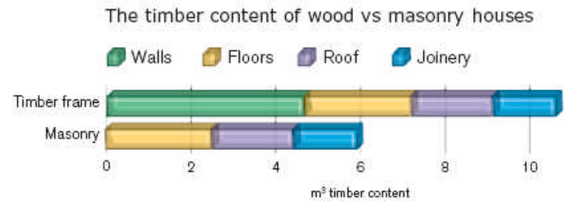
How wood products help slow Global Warming

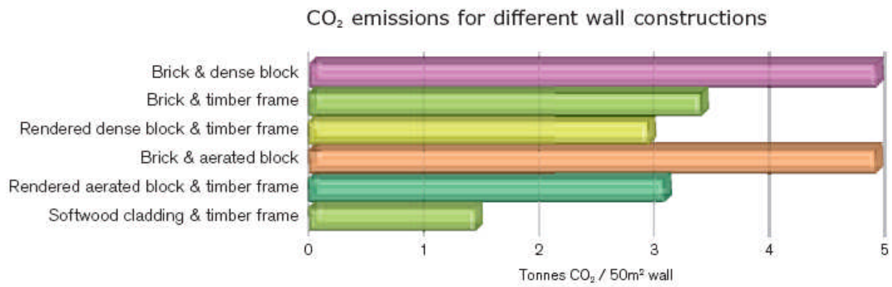
Wood buildings use less CO_2

Timber frame share

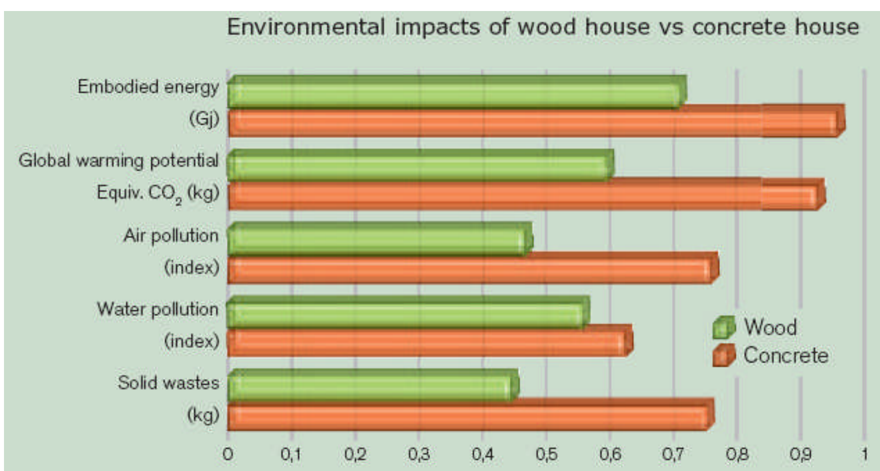
North America	90%
Scotland	70%
Scandinavia	45%
Japan	45%
Europe	8-10%



Wood and wood products save CO_2



Governments are using legislation to curb CO_2



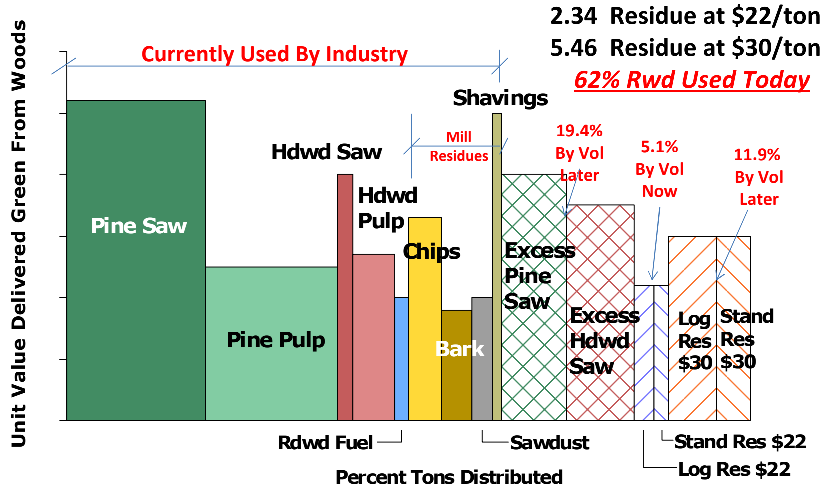
Wood is going to become more important

Wood Fiber Used Annually in SC, million tons: 45.72 Sustainable Potential

29.07 Currently Used
8.85 Excess Sawtimber
2.34 Residue at $22/ton
5.46 Residue at $30/ton

62% Rwd Used Today

Does not include urban wood waste



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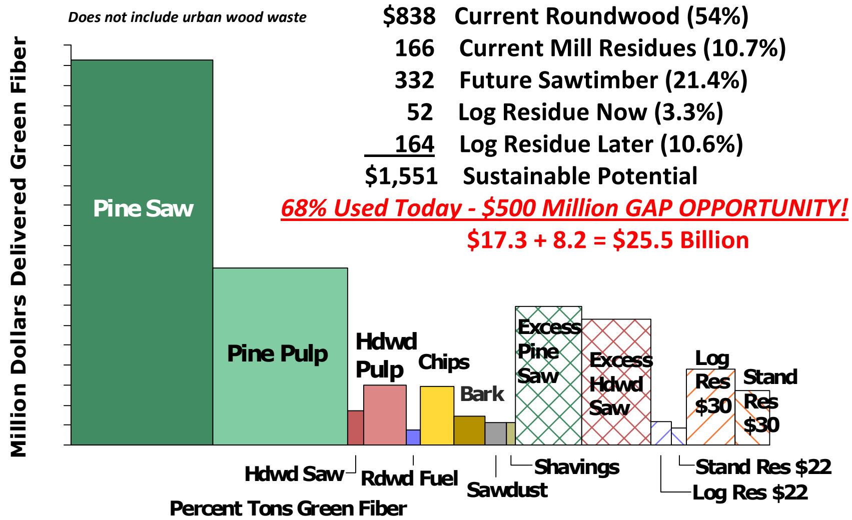
Wood Fiber Delivered Annual Value By Product, million dollars:

Does not include urban wood waste

$838 Current Roundwood (54%)
166 Current Mill Residues (10.7%)
332 Future Sawtimber (21.4%)
52 Log Residue Now (3.3%)
164 Log Residue Later (10.6%)
$1,551 Sustainable Potential

68% Used Today - $500 Million GAP OPPORTUNITY!

$17.3 + 8.2 = $25.5 Billion



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Isn't it mostly about telling our fantastic "*supply chain*" sustainability story to SC citizens who can enjoy the forest in so many different ways and at the same time use wood derived products that are greener than any other products ever developed over a long period of time.