



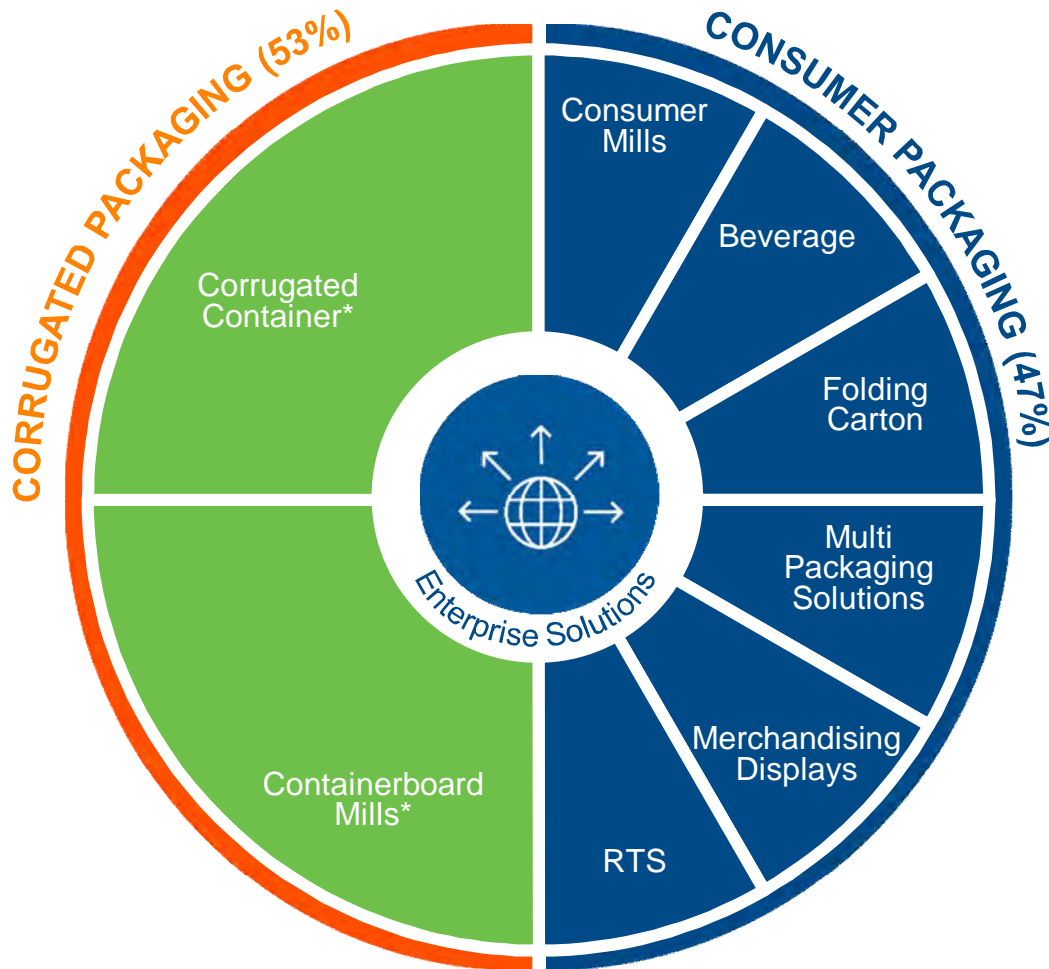
Virginia Pulp and Paper Perspectives

Virginia Loggers Association 15th Annual Meeting
August 19, 2017

Kirby Funderburke, Operations Director Eastern Division



WestRock Paper and Packaging



- #1 North America Consumer Paperboard
- #2 North America Folding Carton
- #1 North America Merchandising Displays
- #2 Beverage multi-pack packaging
- #2 North America Containerboard
- #2 North America Corrugated Packaging
- #2 Brazil Corrugated Packaging
- #1 India Containerboard

Note: *Includes North America, Brazil and India; pie pieces not to scale

(1) Includes LTM sales March 2017 for WestRock, MPS and U.S. Corrugated; excludes Home, Health & Beauty, and Land & Development. Source of rankings: Company and market research. Rankings are based on capacity.

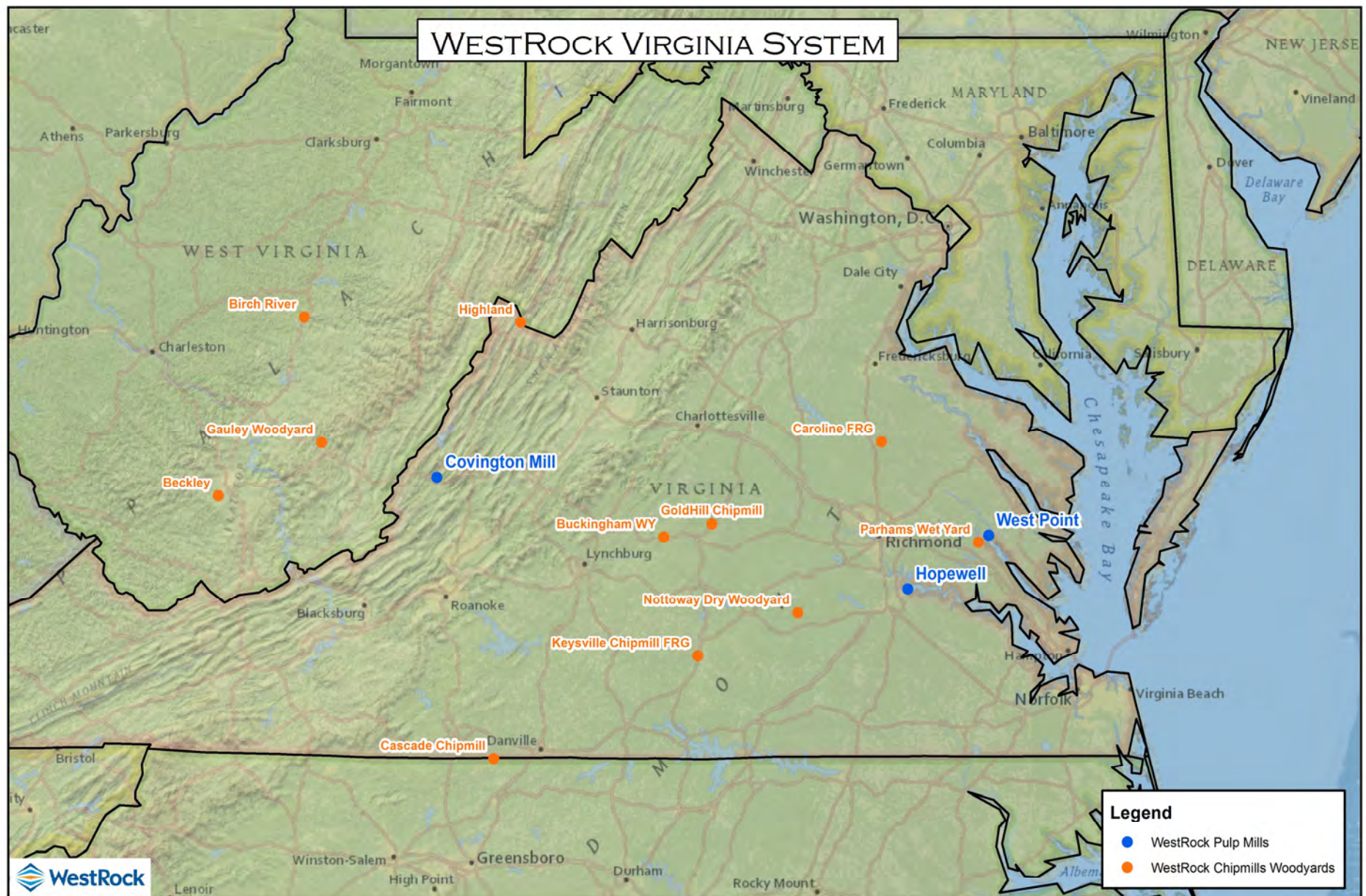
Our global operating platform supports local economies



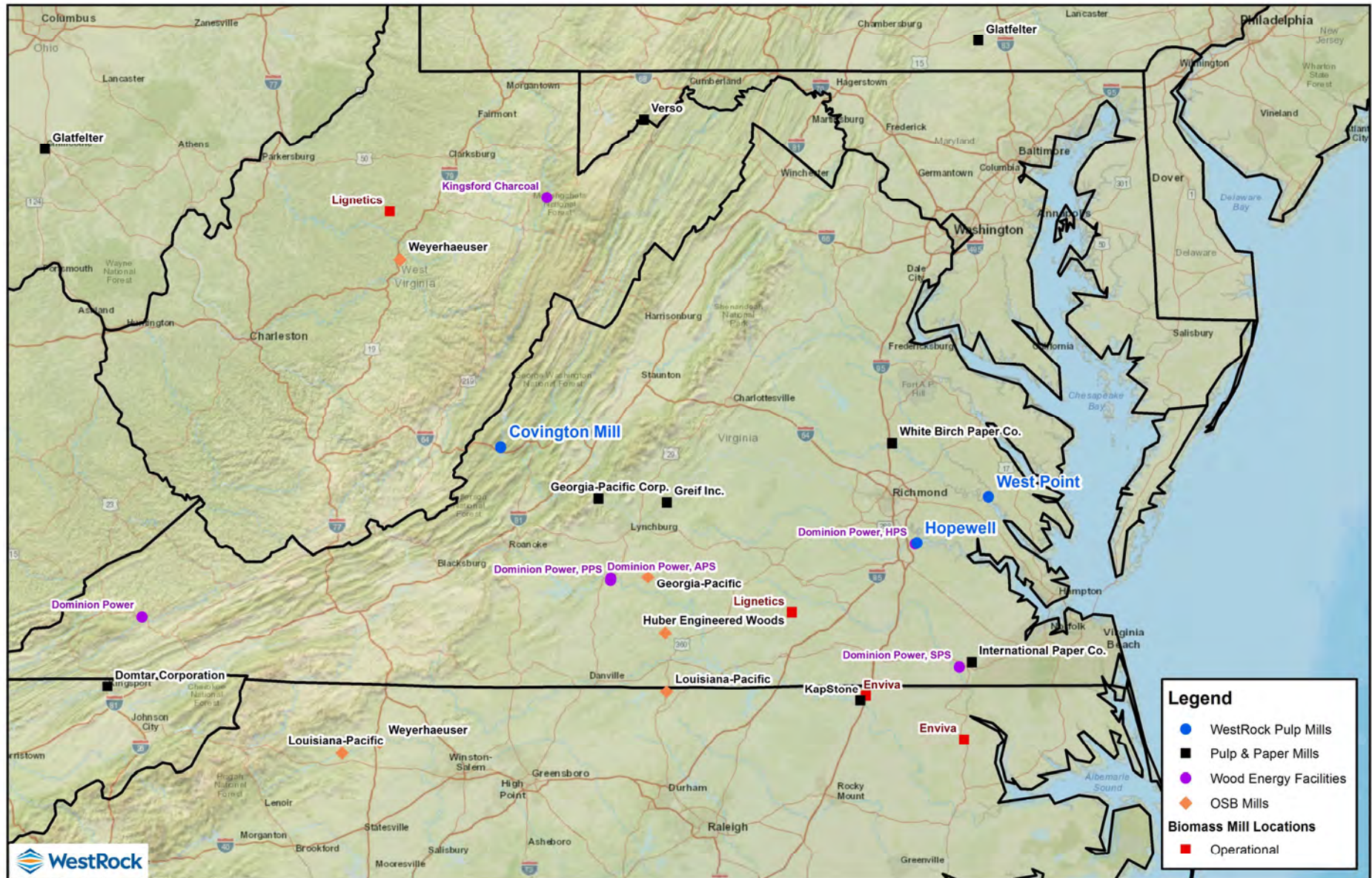
115 Corrugated Container
61 Folding Carton
27 Corrugated and Consumer Mills
23 Merchandising Displays
22 Recycling
15 Packaging partition (RTS)
14 Labels

13 Literature
4 Sheeting + Extrusion
3 Packaging machinery
3 Transaction cards
2 Tubes
1 Rigid packaging

The above list includes operating facilities only, does not include sales and design, research and development, engineering offices



Pulpwood and Paper-Quality Chip Consumers



Report: Sustainability to drive global paper packaging growth

Posted by **Anne Marie Mohan** August 13, 2015

Filed in: **Boxes, Folding cartons, Liquid cartons, Protective packaging, Trays, Renewable resources**

Bans on the use of lightweight plastic bags and a rising awareness of ecological issues around the world are expected to boost the demand for paper packaging materials.



In 2012, the global market for paper packaging stood at US\$254.80 billion and is growing at a 4.4% CAGR from 2013 to 2019. The value is estimated to reach US\$344.43 billion by 2019. In 2012, the overall demand for paper packaging stood at 181.48 billion tons (in terms of volume). That's according to a new research report, "**Paper Packaging Materials Market - Global Industry Analysis, Size, Share, Growth, Trends and Forecast, 2013 - 2019**," from Transparency Market Research.

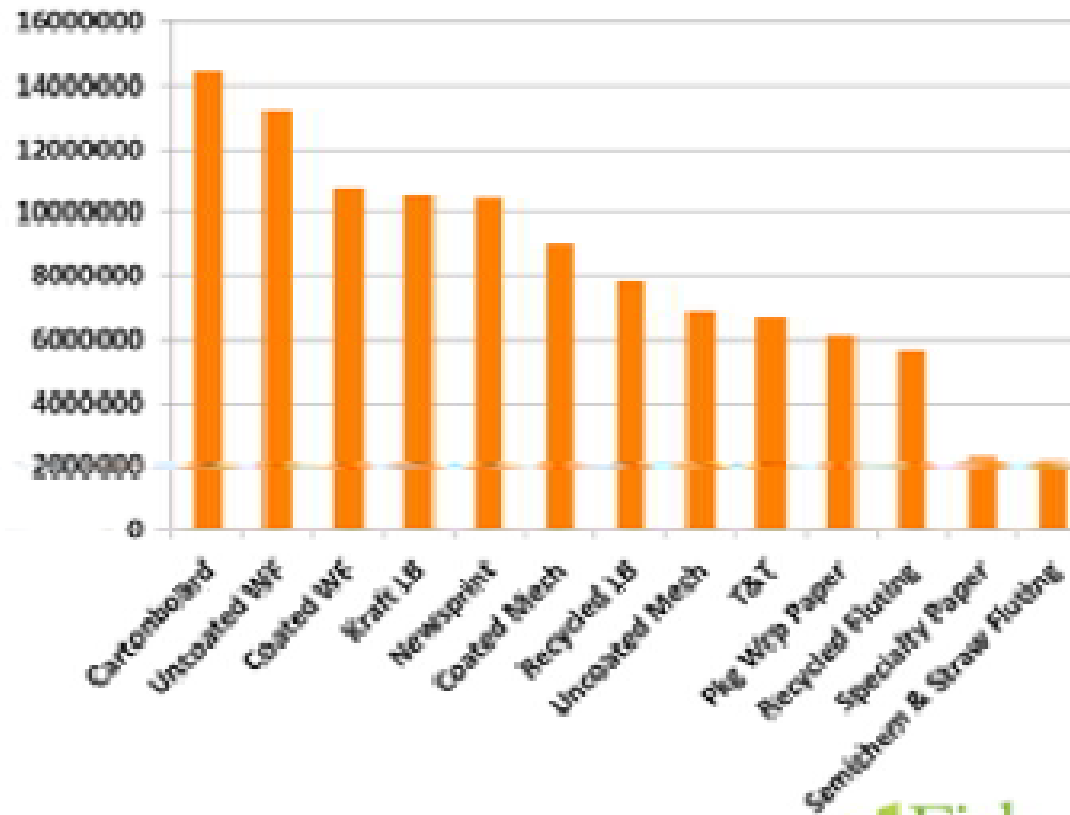
Notes the report, paper is the largest material type in the packaging market. Bans on the use of lightweight plastic bags and a rising awareness of ecological issues around the world are expected to boost the demand for paper packaging materials. Critical factors such as volatility in raw material prices, energy costs, and global

economic slowdown have had an enormous impact on the global packaging market in the past few years. To overcome this, more companies have been aiming to develop sustainable and eco-friendly packaging materials, which can be recycled and reused.

Source:

https://www.greenerpackage.com/renewable_resources/report_sustainability_drive_global_paper_packaging_growth

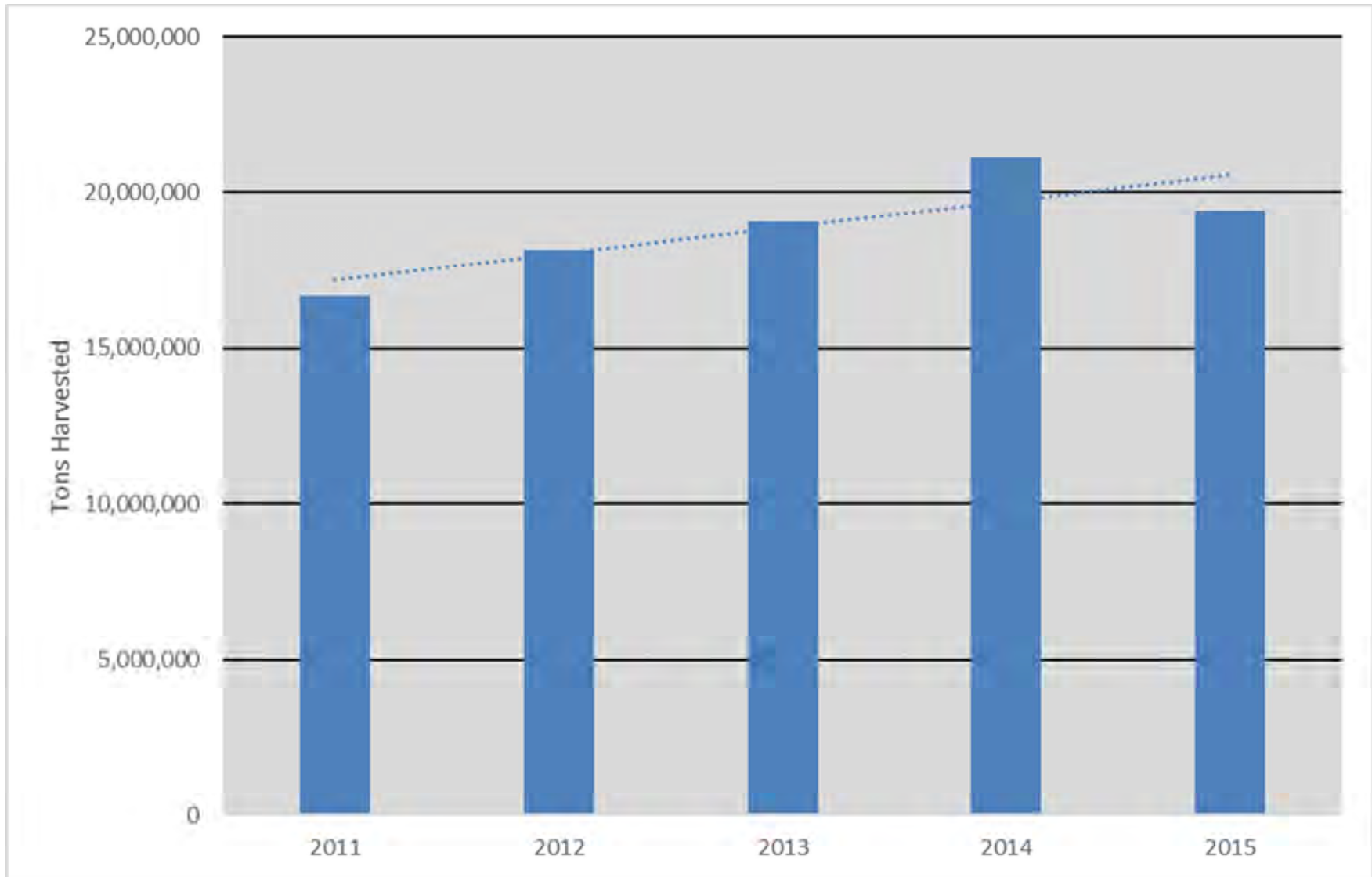
Global Trade by Paper Grade and Volume



Source: UN Comtrade Statistics (2015)
© 2017 Fisher International, Inc.

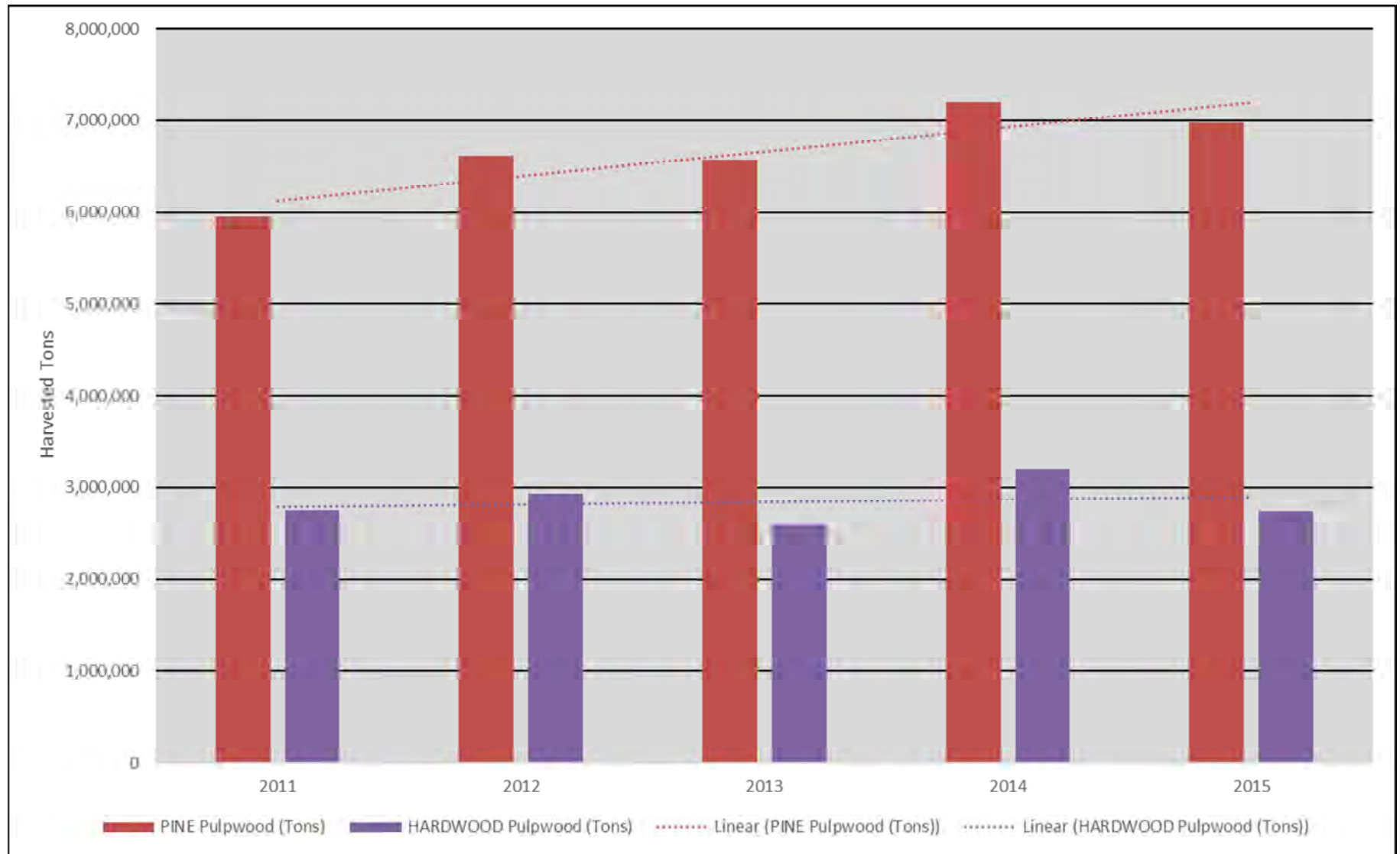


Virginia Total Harvest in Tons



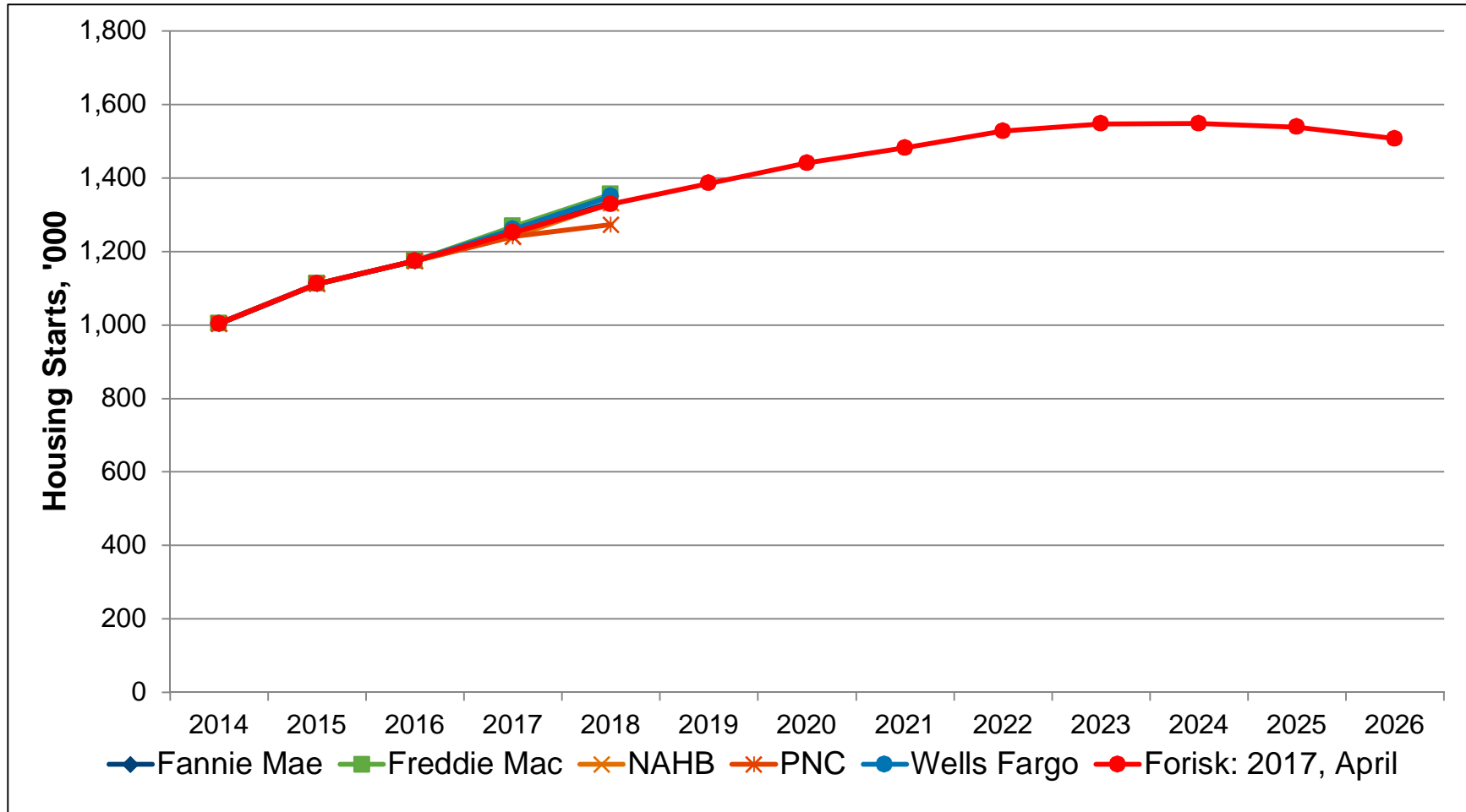
Source: Virginia Department of Forestry

Harvested Pine and Hardwood Pulpwood Tons



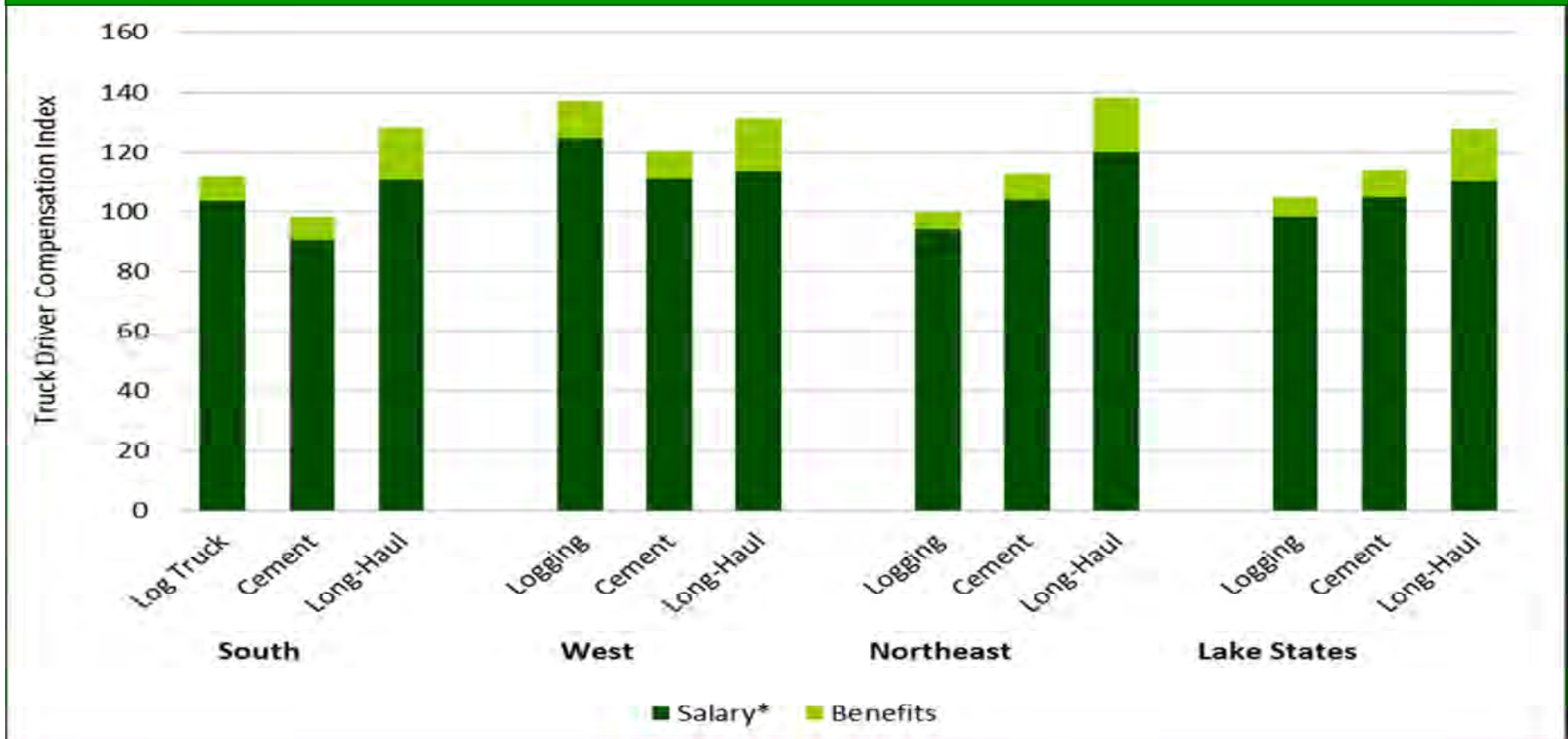
Source: Virginia Department of Forestry

Forisk projects U.S. housing starts of 1.25 million for 2017.



Source: Q2 2017 FRQ

Truck Driver Compensation Index for Three Industries by Region in the U.S.

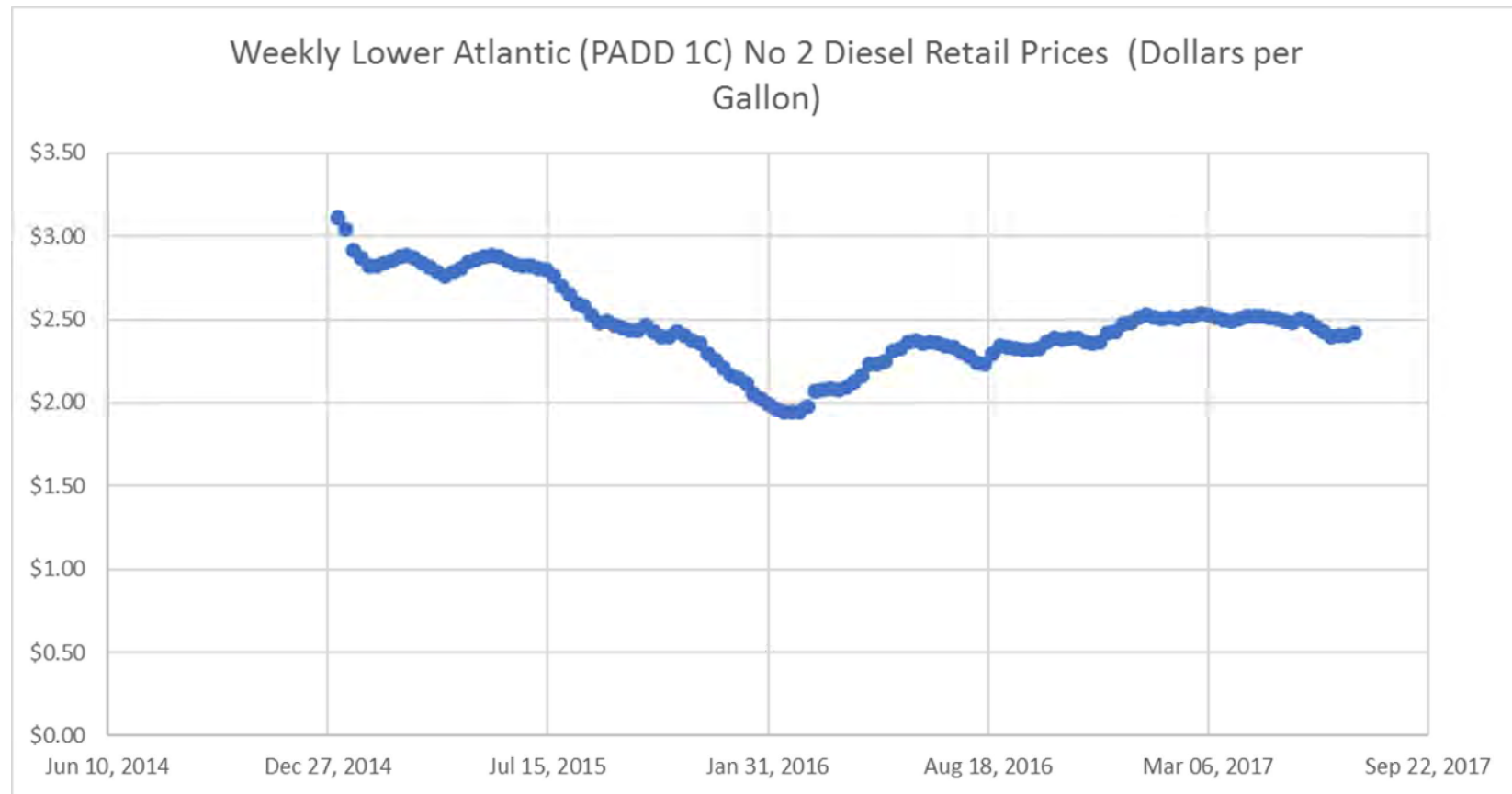


Source: Q1 2017 FRQ

*All values indexed to level of 100, at the national average salary for logging equipment operators in 2015.

A U.S. shortage in qualified truck drivers pressured salaries higher the past two years. Log truck driver compensation in the South and West are competitive with other rural trucking industries and long-haul freight companies. Salary increases cost the wood supply chain an additional \$90 million.

Historic Diesel Prices in the Lower Atlantic

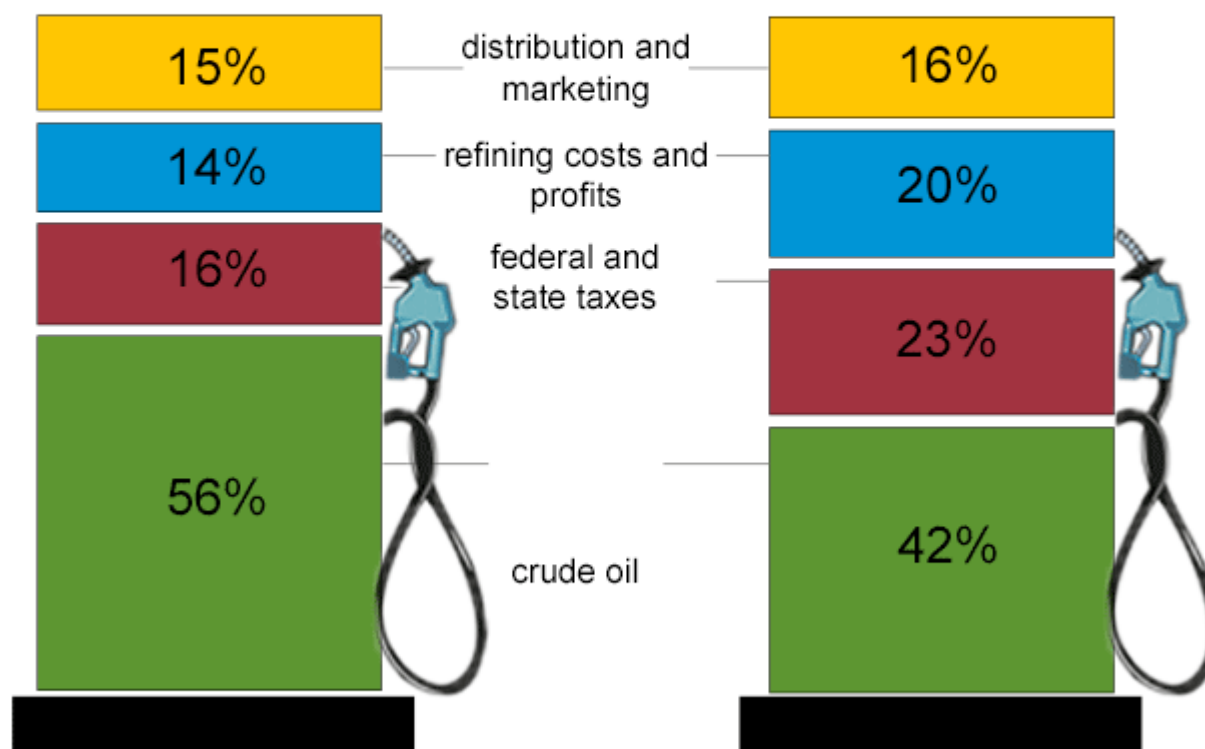


Source: U.S. EIA

What do we pay for in a gallon of diesel fuel?

2007 to 2016
Average retail
price: \$3.27

2016
Average retail
price: \$2.31



Source: U.S. Energy Information Administration, averages based on *Gasoline and Diesel Fuel Update*



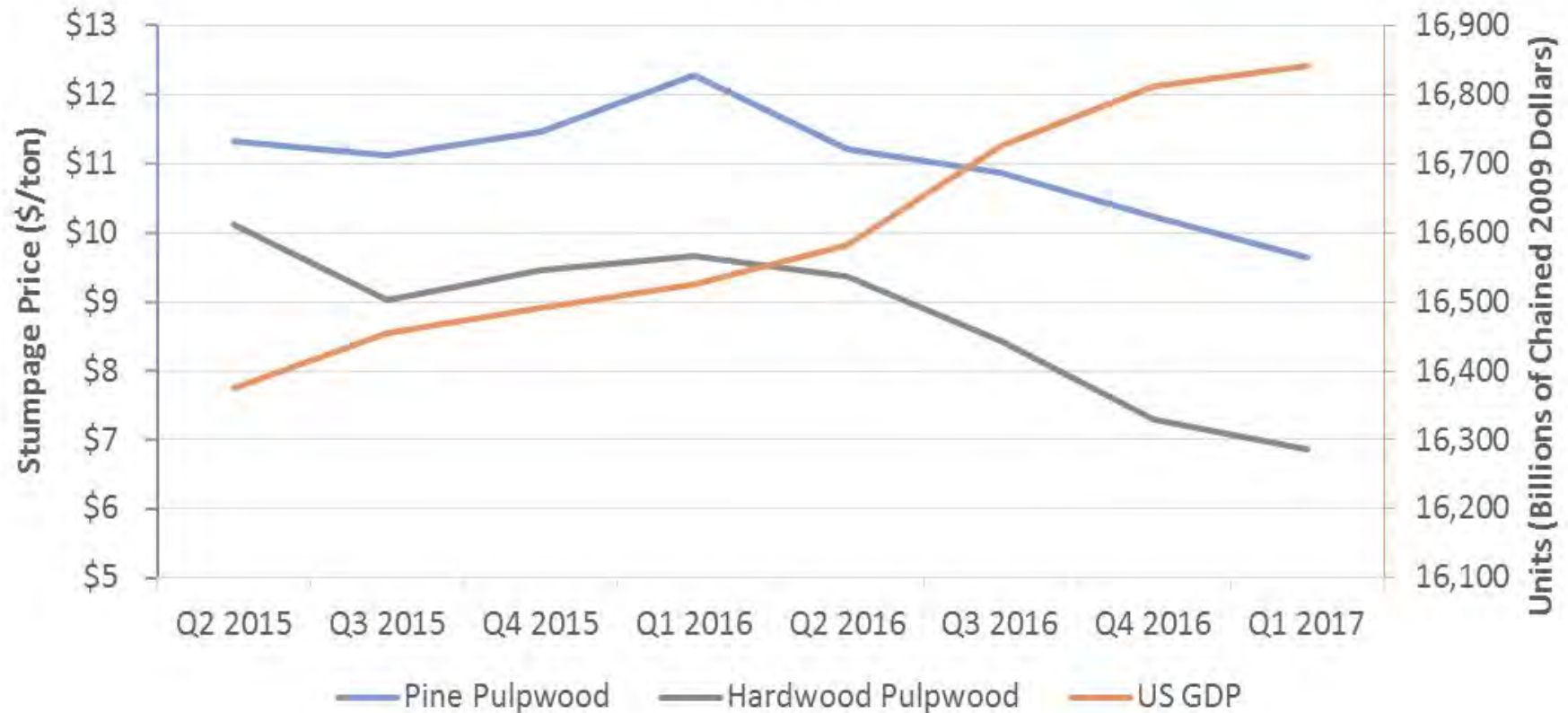
Diesel fuel retail price incl taxes, U.S. average

dollars per gallon



Source: Short-Term Energy Outlook

Southwide Pulpwood Stumpage Price and US GDP Trends



Source: <https://blog.forest2market.com/us-south-timber-prices-drop-in-1q2017>

Thank you.