



American
Forest & Paper
Association

Economic & Environmental Benefits of Paper Recycling

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BETTER PRACTICES
BETTER PLANET 2020
Continuing AF&PA's Commitment to Sustainability

About AF&PA

- Advances a sustainable pulp, paper, packaging and wood products manufacturing industry
- Fact-based public policy and marketplace advocacy

AF&PA's 2020 Sustainability Goals

- | | | |
|----------------------|---|--|
| 1. Paper Recovery |  | Exceed 70% |
| 2. Energy Efficiency |  | Increase purchased energy efficiency by at least 10% |
| 3. GHG Emissions |  | Reduce intensity by at least 15% |
| 4. Forestry |  | Increase certified fiber procurement |
| 5. Safety |  | Reduce incidence rate by 25% |
| 6. Water |  | Reduce use in mills by 12% |



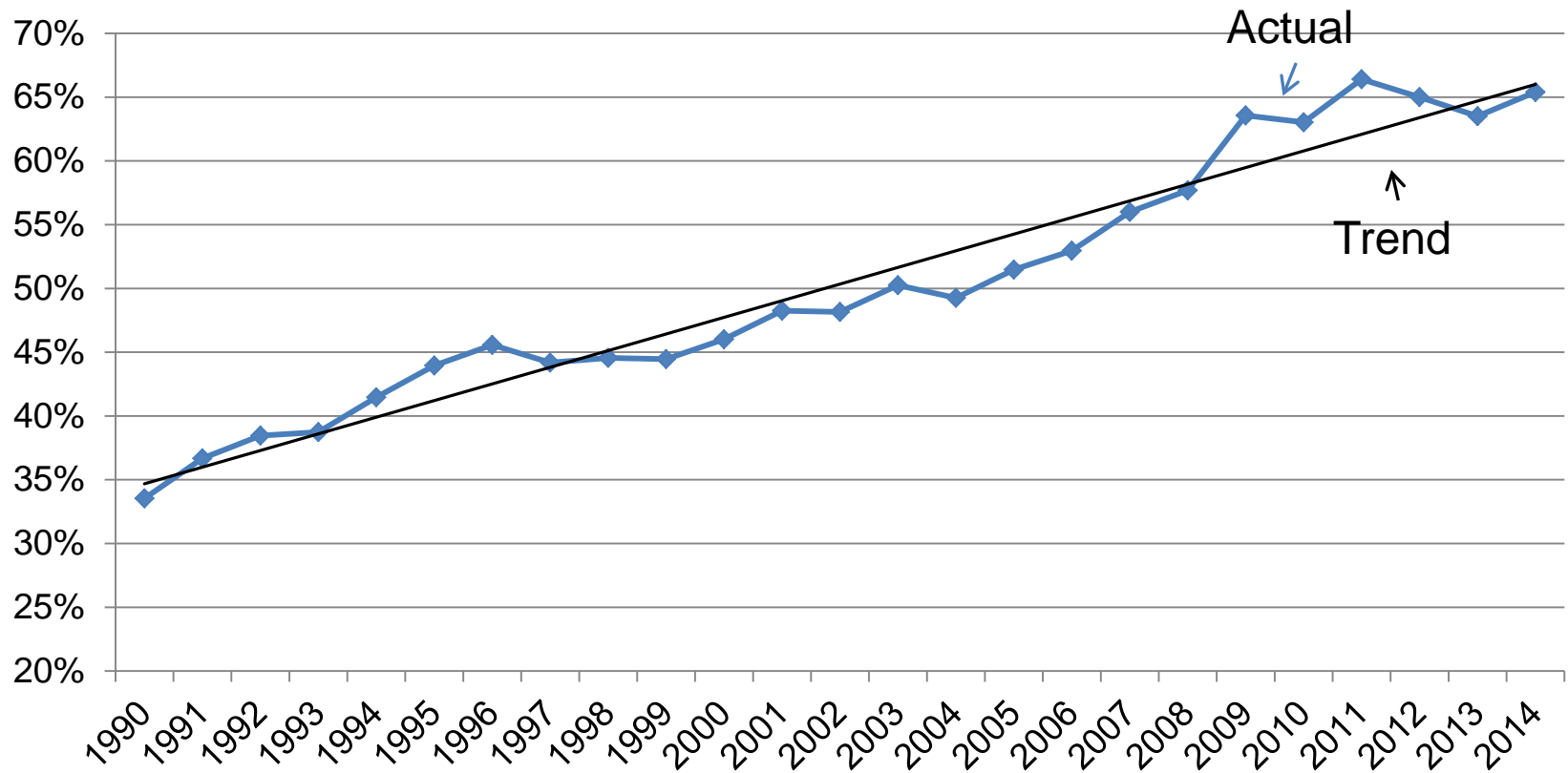
BETTER PRACTICES
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U.S. Recovery of Paper & Paper-based Packaging

- Overall: 65.4% (2014)
- Exceed 60% recovery past 6 years
- True environmental success story
- On track to meet *Better Practices Better Planet 2020* goal

Historical Paper Market Trends

U.S. Paper Recovery Rate 1990-2014

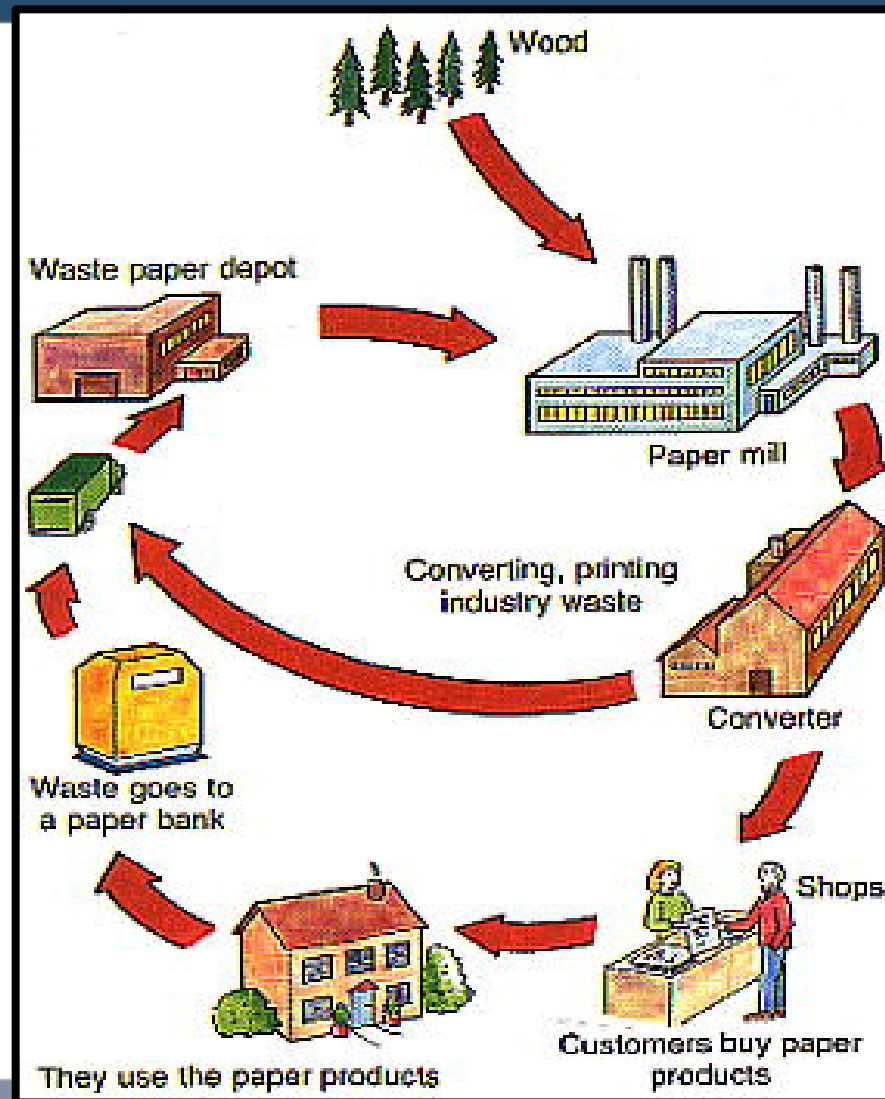


Source: AF&PA

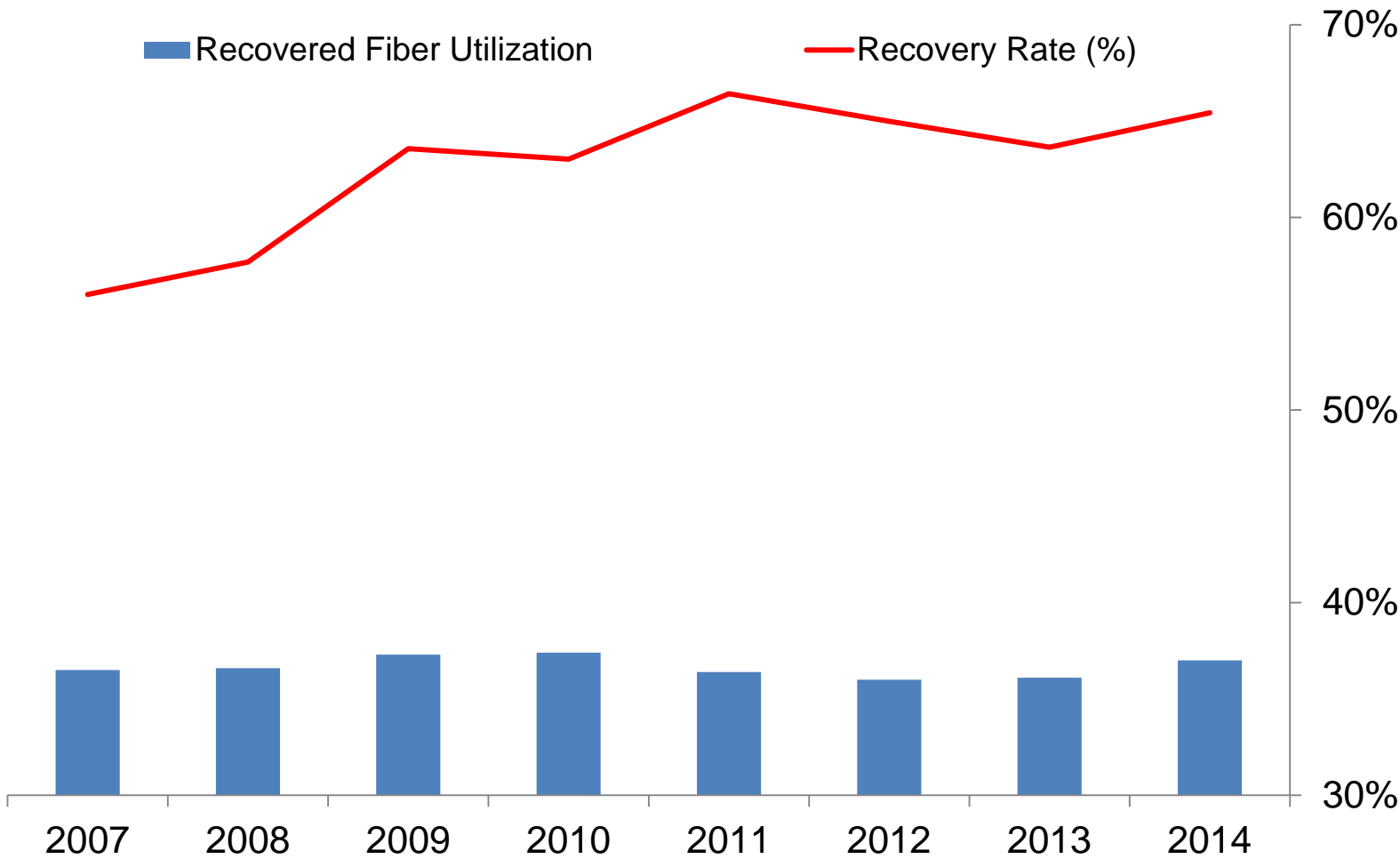
Sustainable Manufacturing of Paper

Paper and paper-based packaging are...

- Derived from sustainably managed forests
- Renewable
- Recyclable

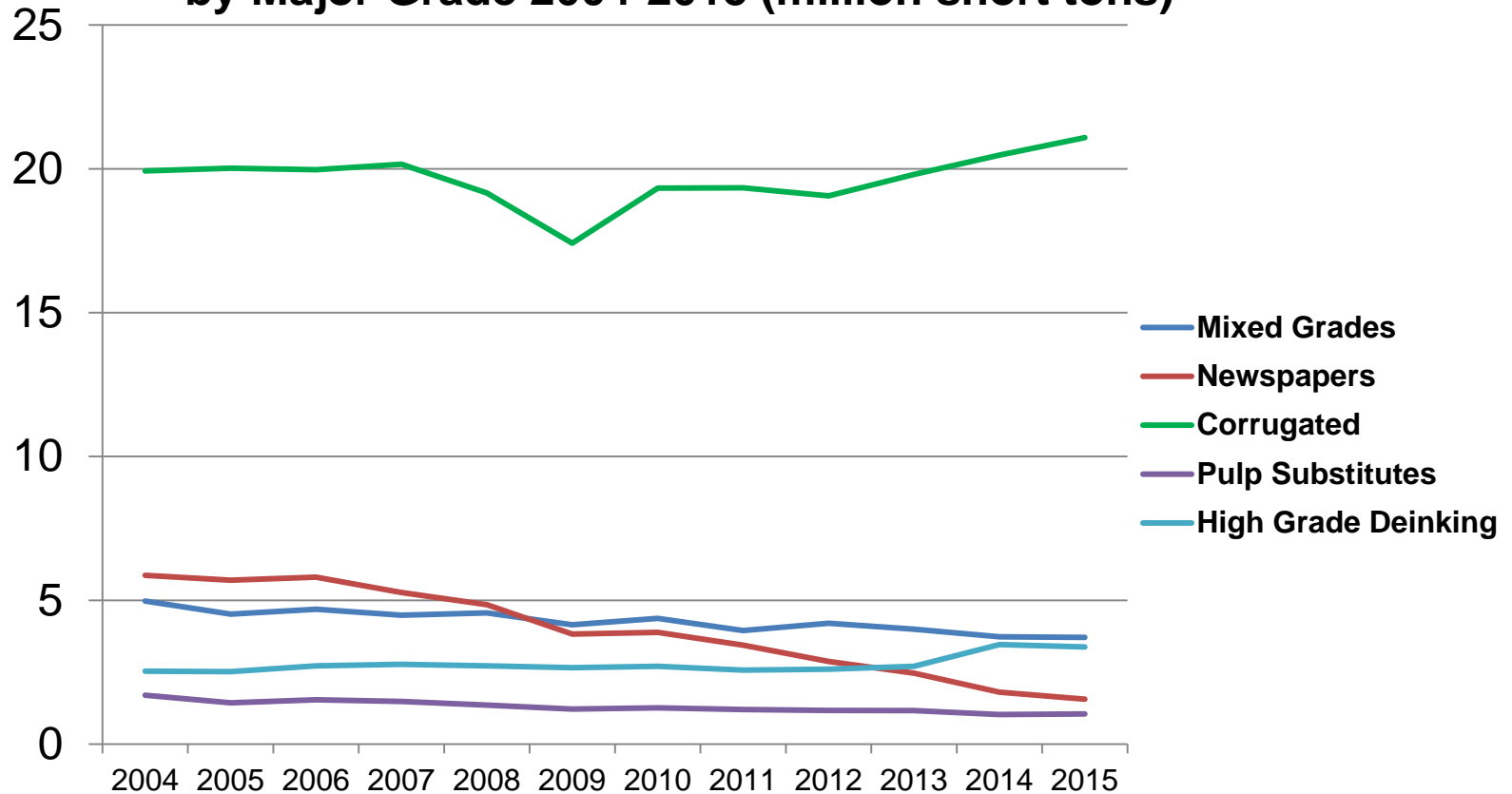


Recovered Fiber Share of Total Fiber Source (2007-2014)



Historical Paper Market Trends

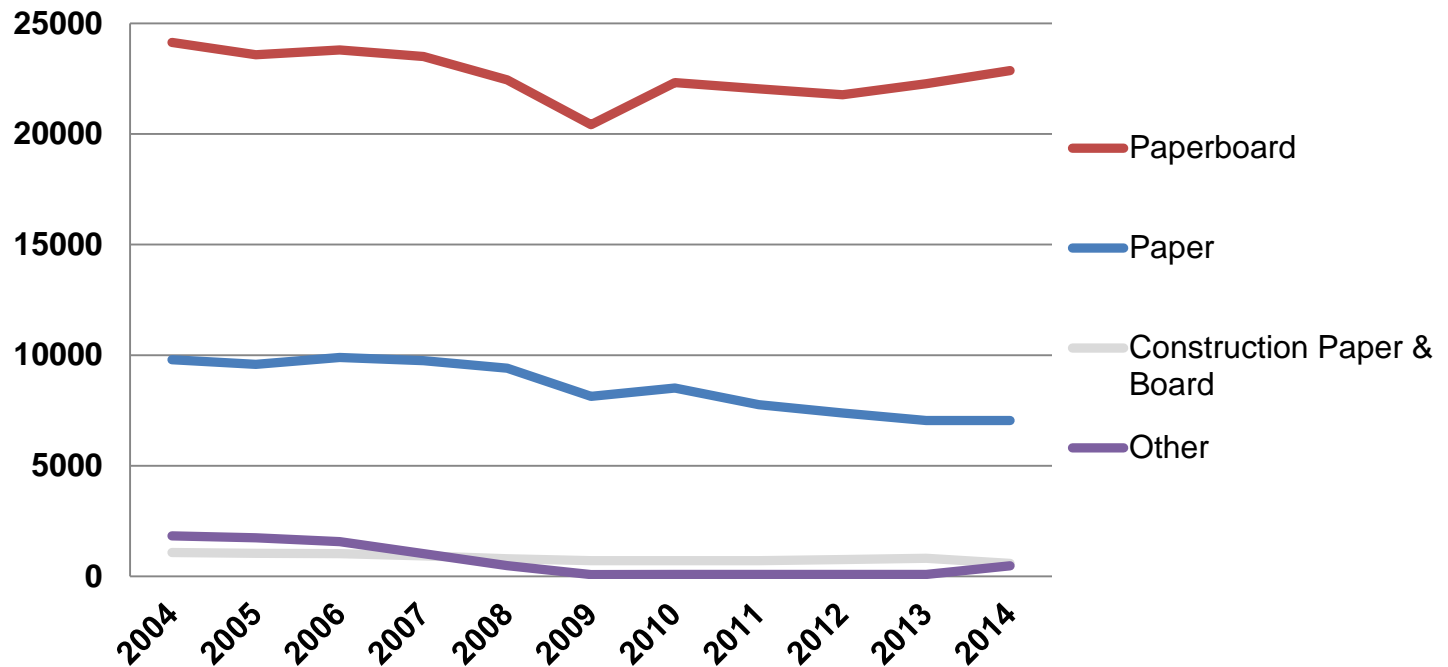
U.S. Recovered Paper Consumption
by Major Grade 2004-2015 (million short tons)



Historical Paper Market Trends

U.S. Consumption of Recovered Paper by End Use 2004-2014

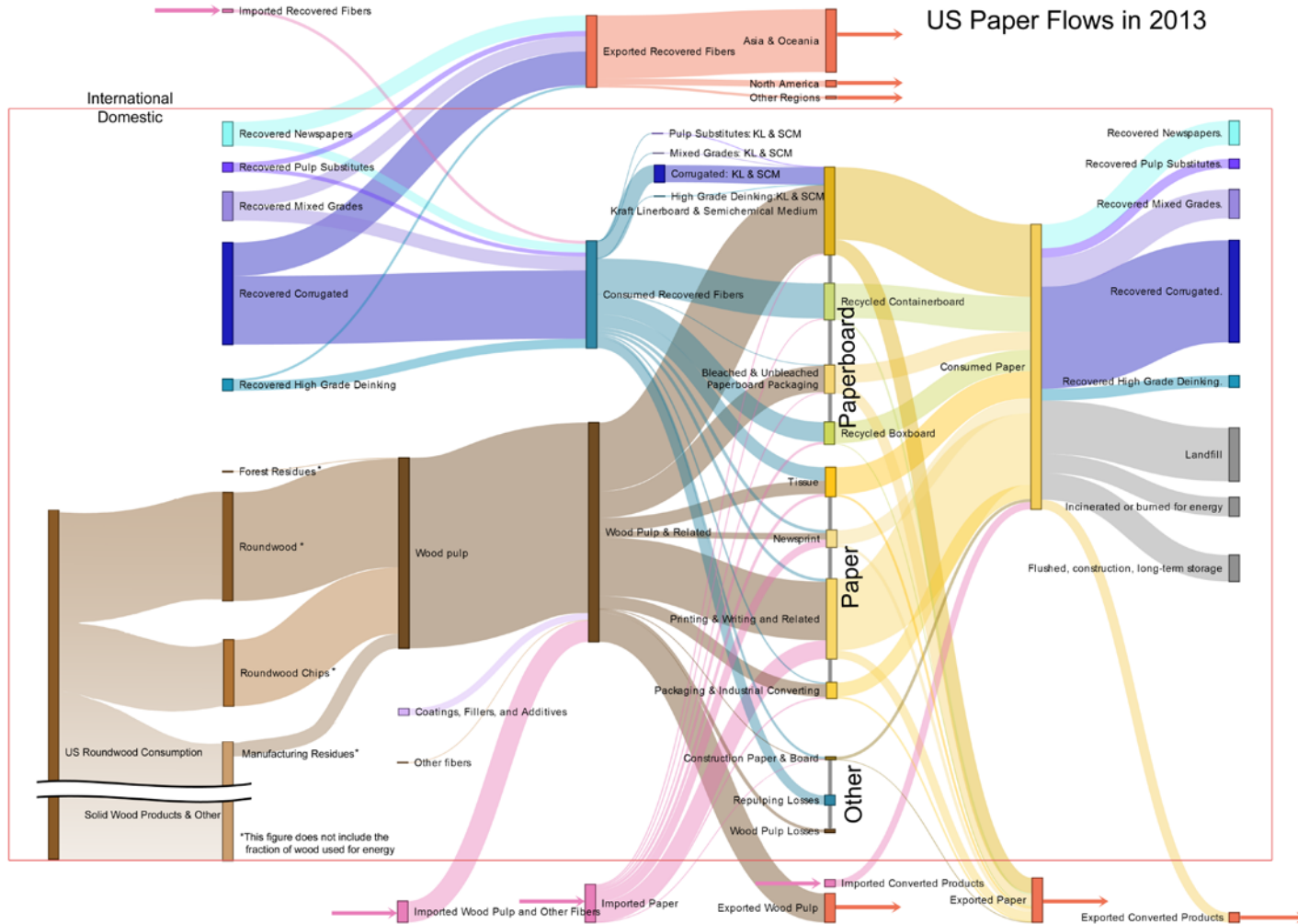
Thousands of Short Tons



Fiber Used in Manufacturing

- Demand-driven
- New or Recycled Fiber:
 - Best fiber for product requirements
- Meets customer needs:
 - Availability
 - Cost
 - Functionality
 - Aesthetics

U.S. Fiber & Paper Flows



Fiber Stage:

Sources of Fiber

Fiber Utilization
in Products

End-of-Life Fiber
Destinations

Environmental Benefits

Paper Recycling

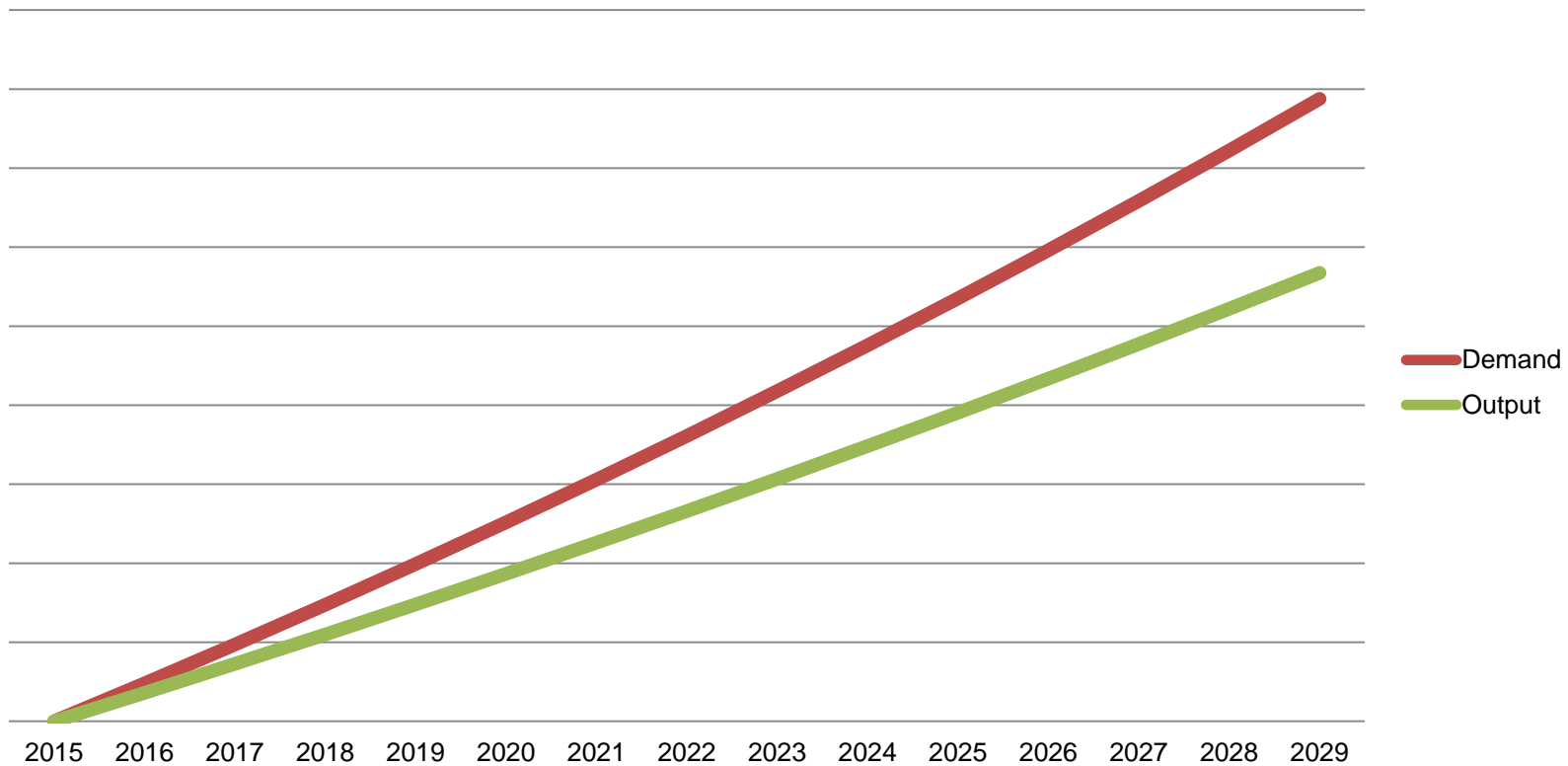
- Saves landfill space
- Avoids landfill GHG emissions
- Energy use varies
 - Integrated mill
 - More total energy
 - Mostly biomass
 - Recycled mill
 - Less total energy
 - More purchased electricity

Recovered Fiber Markets

- Complex, dynamic, efficient
- Global demand
- Collection commitment by many parties
 - Municipalities
 - Paper manufacturers
 - Recycling companies
 - Schools
 - Businesses
 - Millions of Americans
- Not served by regulations that restrict market-based collection or use

Global Demand for Recovered Paper (2015-2029)

Global Recovered Fiber Demand vs. Paper and Paperboard Output



Source: RISI

Opportunities for Increased Recovery

- Grades
 - Paperboard
 - Office papers
- Sources
 - Office buildings
 - Smaller commercial/institutional
 - Exurban communities
- New initiatives
- Education

Government Policy Challenges

- Mixed-waste processing systems
- Extended Producer Responsibility
- Recycled content mandates

“Best Practices” for Sustaining Recovered Paper Markets

- Free marketplace
 - Collection
 - Utilization
- System designed to meet end user requirements

Thank You

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