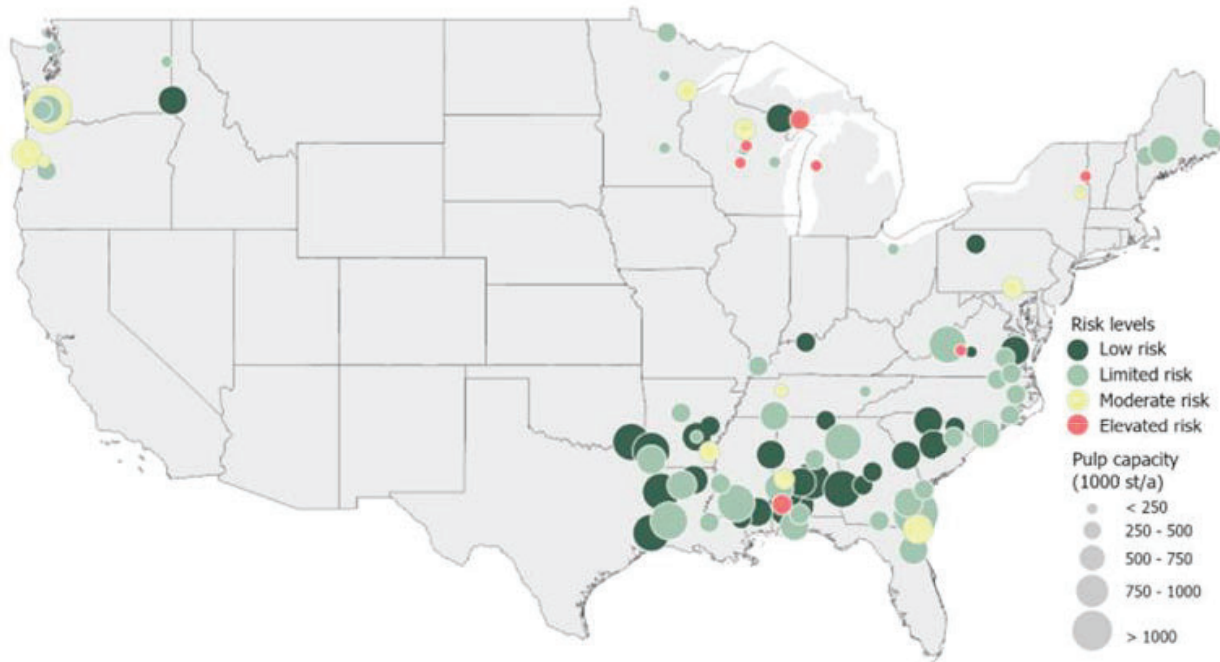
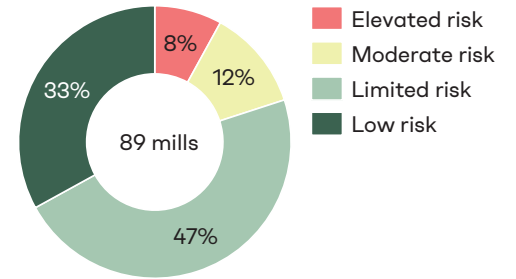


Based on the techno-economic mill assessment, 18 wood consuming pulp & paper mills are at elevated or moderate risk of closure in the medium-term in the U.S.

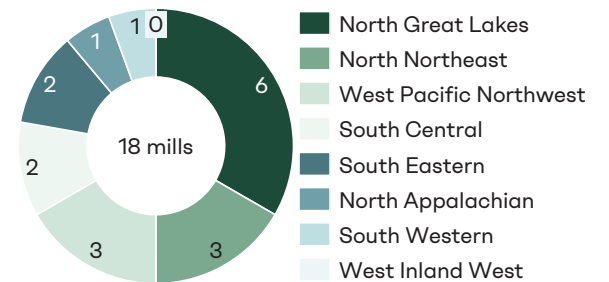
U.S. operating wood consuming pulp mills by risk levels



Mill techno-economic closure risk



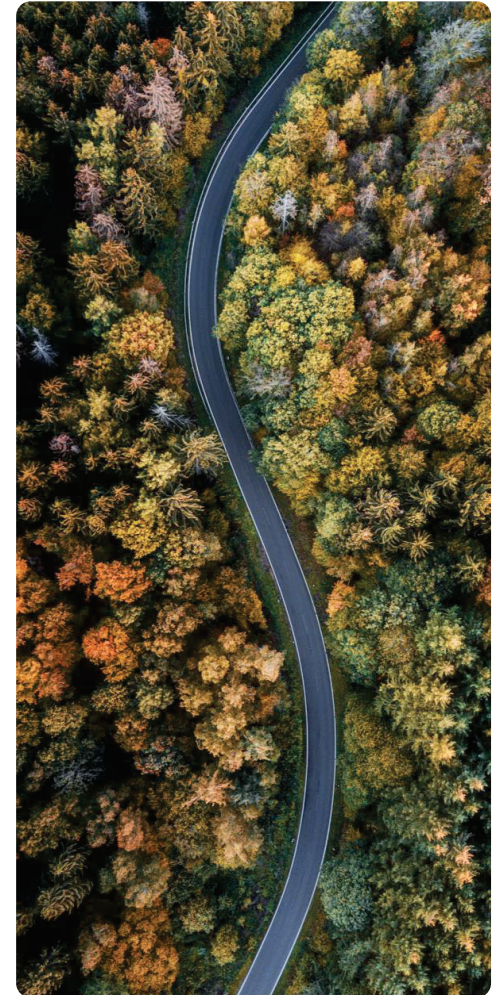
Elevated and moderate risk mills by region



The U.S. pulp and paper sector is not in terminal decline, but it is at an inflection point

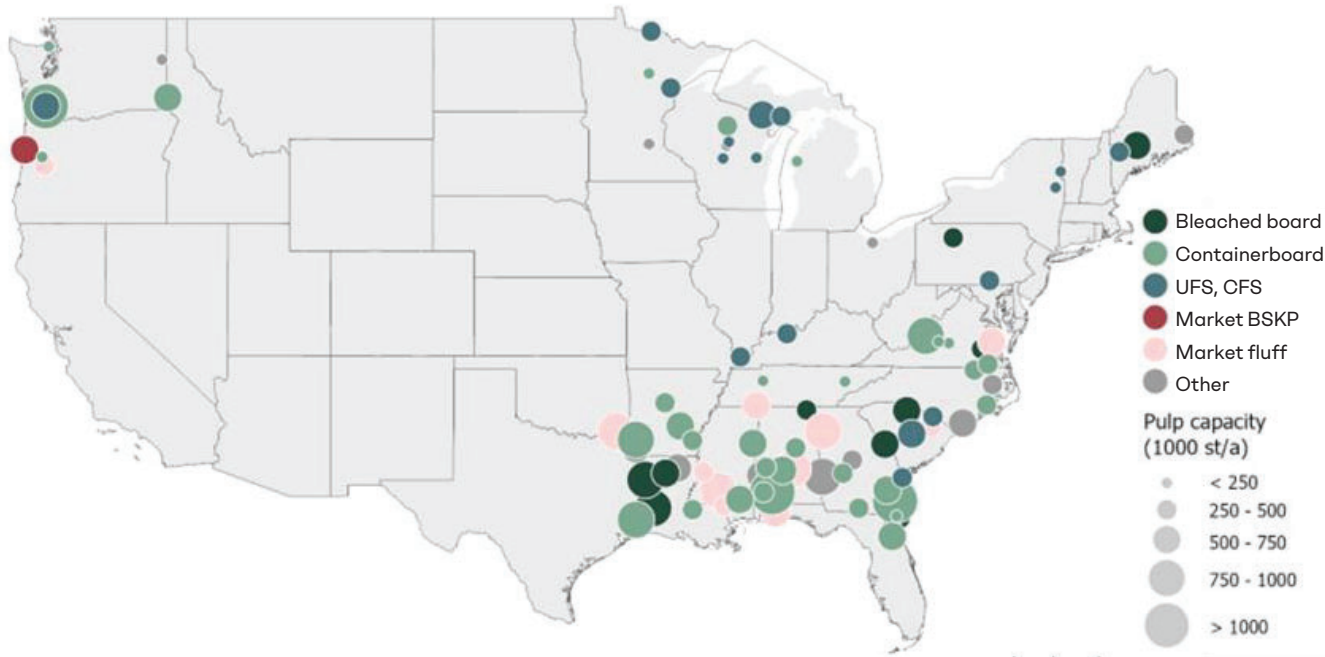
How to avoid accelerating loss of domestic pulp & paper manufacturing and forest market instability?

- **Protect competitive regions and grades.** Focus on Southern U.S. packaging, containerboard and fluff pulp assets, where the U.S. remains globally competitive.
- **Enable reinvestment in critical infrastructure.** Recovery boilers and digesters are the single largest determinant of survival; delayed reinvestment sharply increases closure risk.
- **Recognize pulp mills as forest-system infrastructure.** Mill closures ripple outward—into sawmills, logging jobs, and forest health—far beyond the mill gate
- **Anticipate policy-driven capacity loss.** Absent action, the next wave of closures will be structural, not cyclical, with impacts concentrated in rural America.

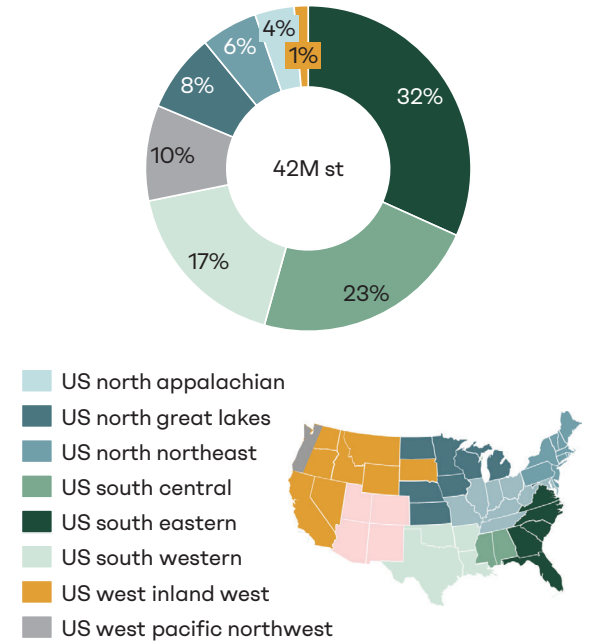


There are 89 operating wood consuming pulp mills in the U.S. - 70% clustered in the U.S. South. On average, a pulp mill consumes 60 million cubic feet of wood per year

Operating wood consuming pulp & paper mills in the U.S.



Wood pulp mills by region*

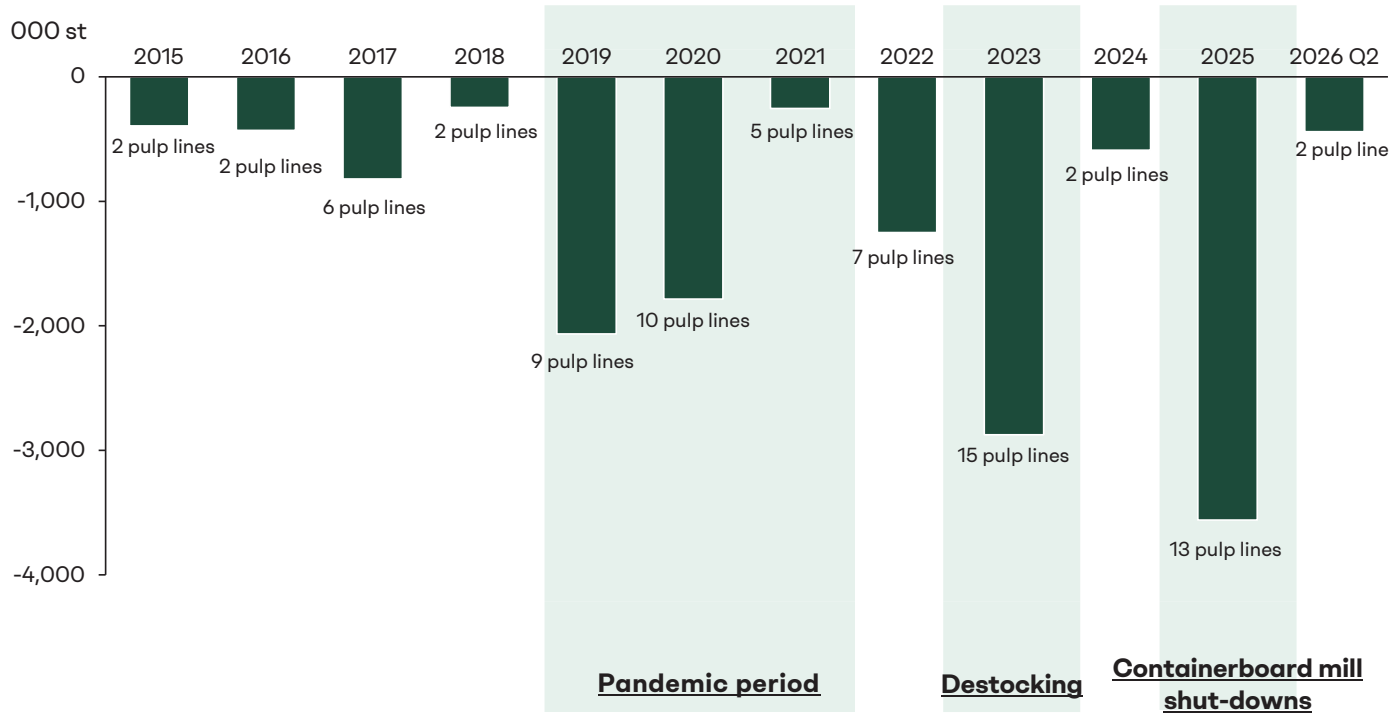


Source: AFRY SMART. *) Total capacity based on total wood pulp capacity. Some manufacturers produce multiple grades in the same mill, main grade taken for the classification

The past wave of pulp & paper mill closures in the U.S.

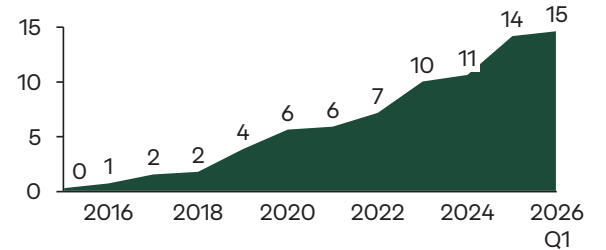
Over the past decade, 43 pulp mills with 15 million tons of wood pulp capacity have closed in the U.S. - equivalent to ~60 million green tons of wood per year

U.S. wood pulp capacity shut-downs 2015-2026 Q1



- Since 2015, there has been a 25% reduction in pulp capacity in the U.S., while 43 mills, including 70 pulping lines, have closed.
- On average, a pulp mill in the U.S. consumes 1 to 2 million green tons of wood per year, while an integrated pulp & paper mill may directly employ ~500 people.
- Pulp & paper mill closures have created significant stress on forestry and local communities.

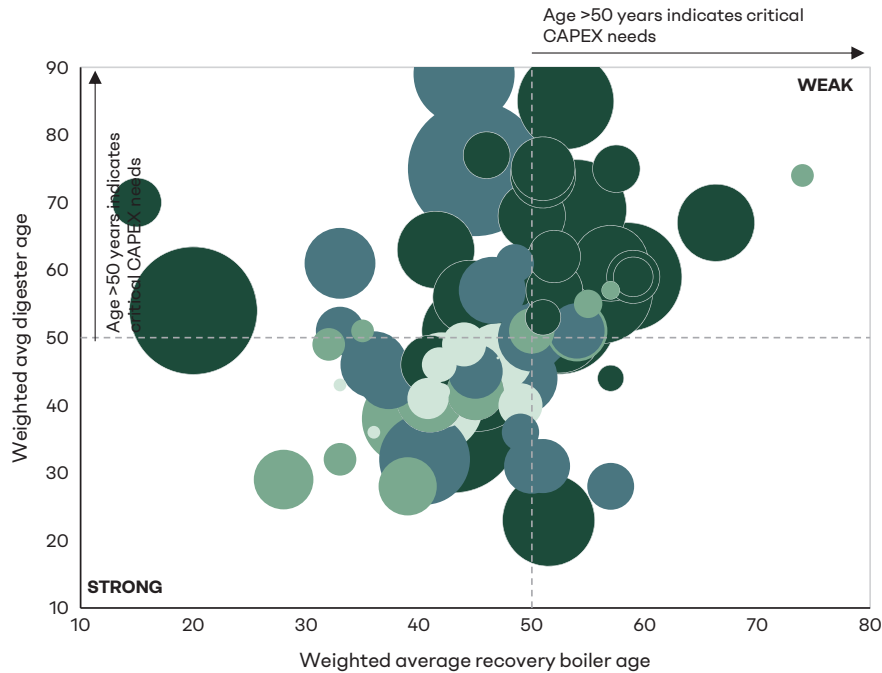
U.S. WOOD PULP CAPACITY REDUCTION
million st



Source: AFRY SMART

Recovery boilers at U.S. pulp mills are aging and require reinvestment – 50 recovery boilers, representing 41%, have been operational for more than 50 years

Age profile of U.S. pulp mill recovery boiler and digester age



- Containerboard
- P&W
- Market BSKP (inc. fluff)
- Bleached board

Recovery boilers

- There are 121 recovery boilers at the 89 pulp mills in the U.S. 41% of the mills have recovery boiler age >50 years
- When recovery boilers reach 50 years of service, substantial investments and replacements are typically needed within 5 to 10 years. Capex between \$500 million and over \$1 billion may be needed, or rising maintenance costs and needs can disrupt the mill's operations, efficiency and competitiveness.
- Average recovery boiler age by region:
 - U.S. : 45 years
 - Europe: 31 years
 - Latin America: 20 years
 - China: 10 years

Source: AFRY SMART.