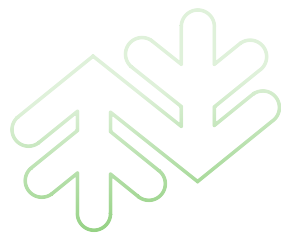
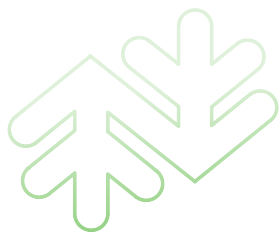
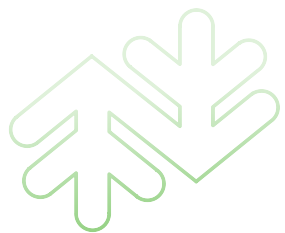


Norske Skog

Carnegie environment
and profitability seminar

26 September 2023



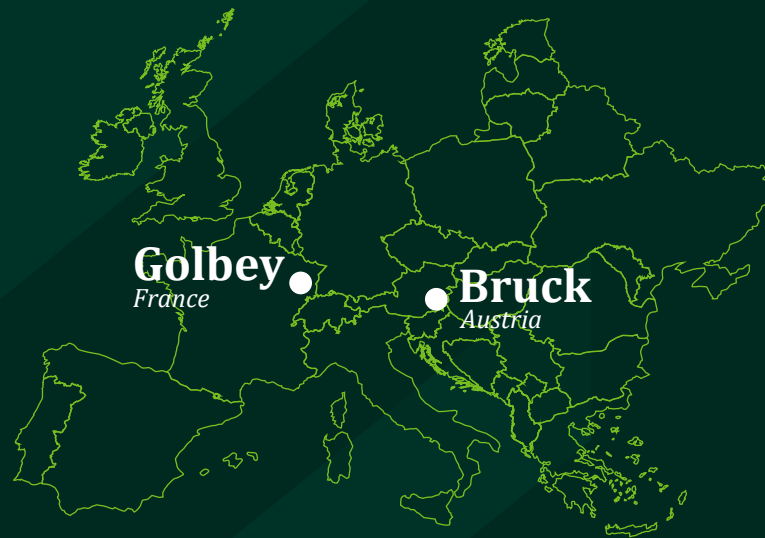
*We create
green value*

Five high quality industrial sites

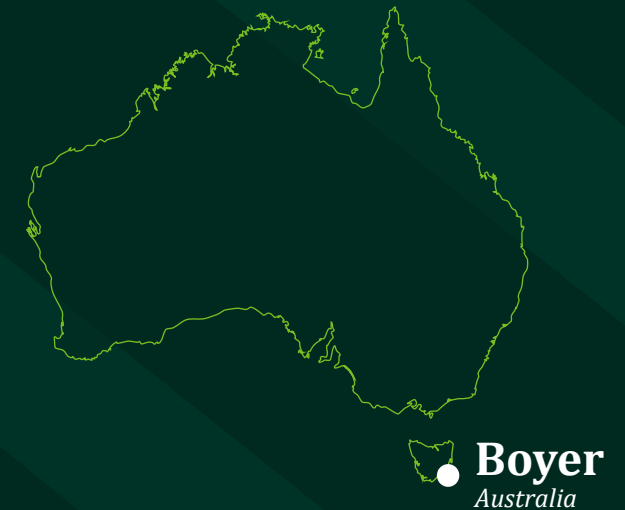
Eleven paper machines with supporting infrastructure for energy, fibre and water



Five paper machines
Pure-play publication paper machines and exploring future alternatives



Four paper machines
Packaging strategy underway with conversion of two paper machines from publication paper to containerboard



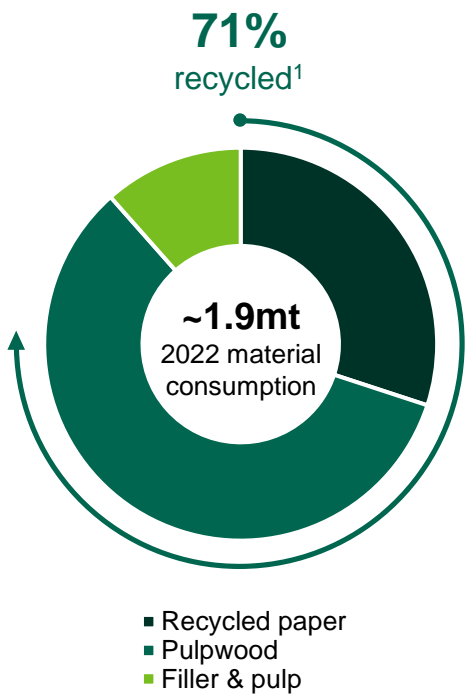
Two paper machines
Gradual regional exit with sale of Albury, Tasman, Nature's Flame and forest assets



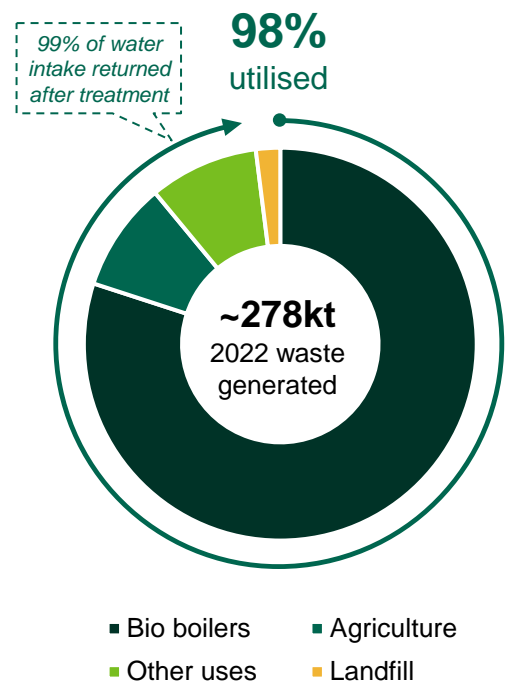
Enabling the circular economy

Continuous work to improve environmental reporting and footprint

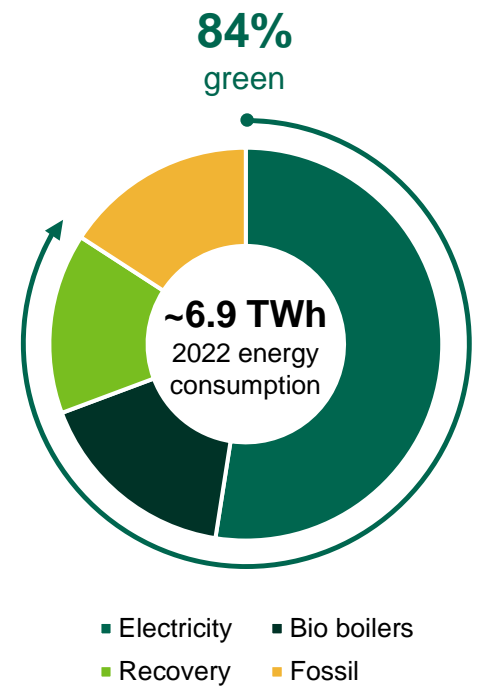
End-products recycled



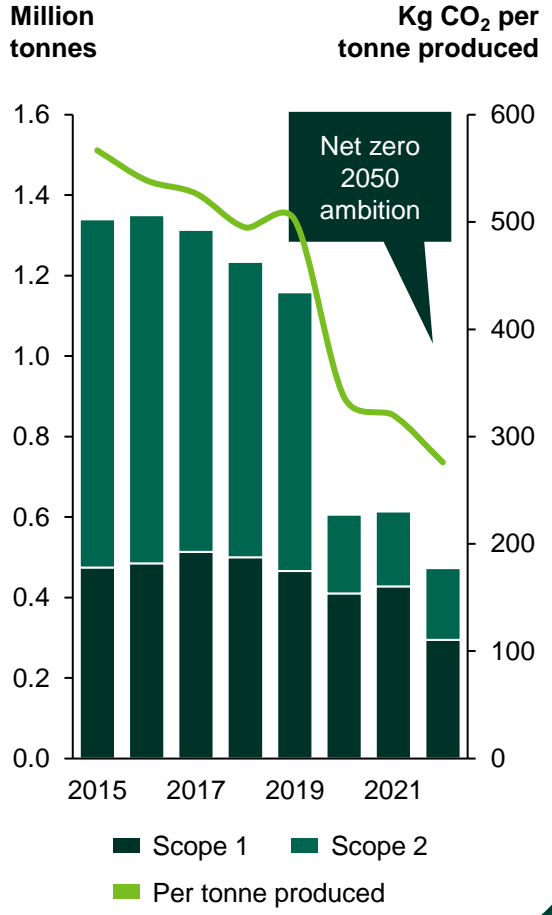
Waste utilised



Green energy focused



Scope 1 and 2 CO₂



1) Industry recycling rate in 2022 (CEPI)

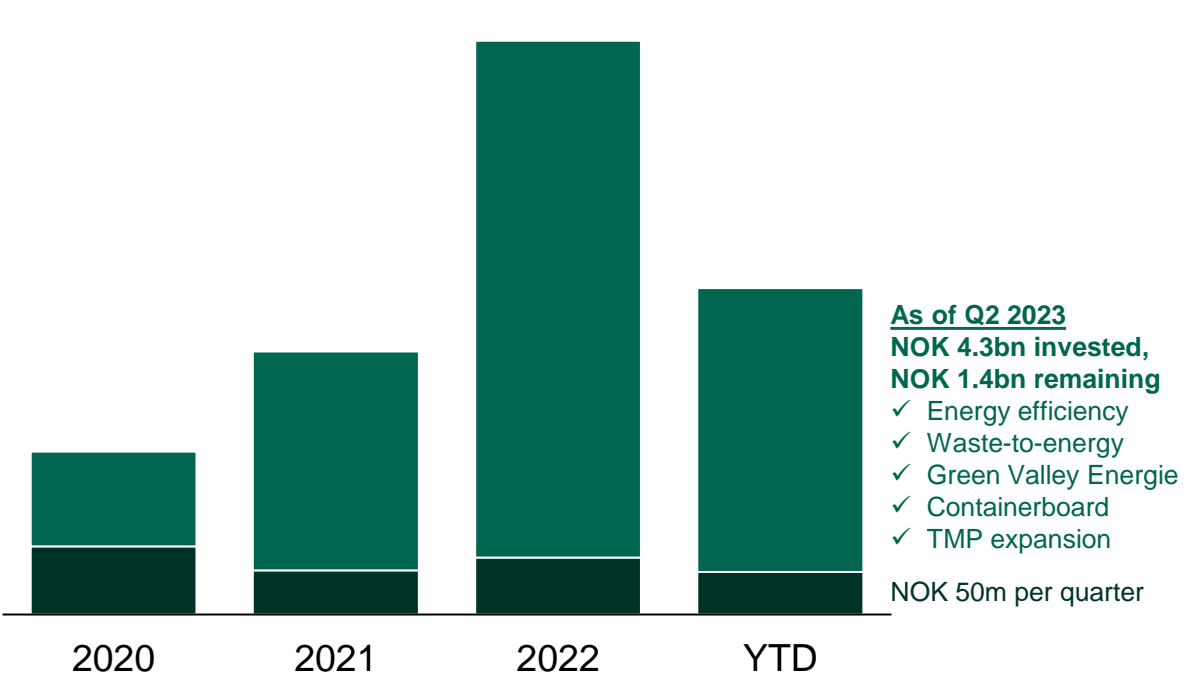


Investing for growth

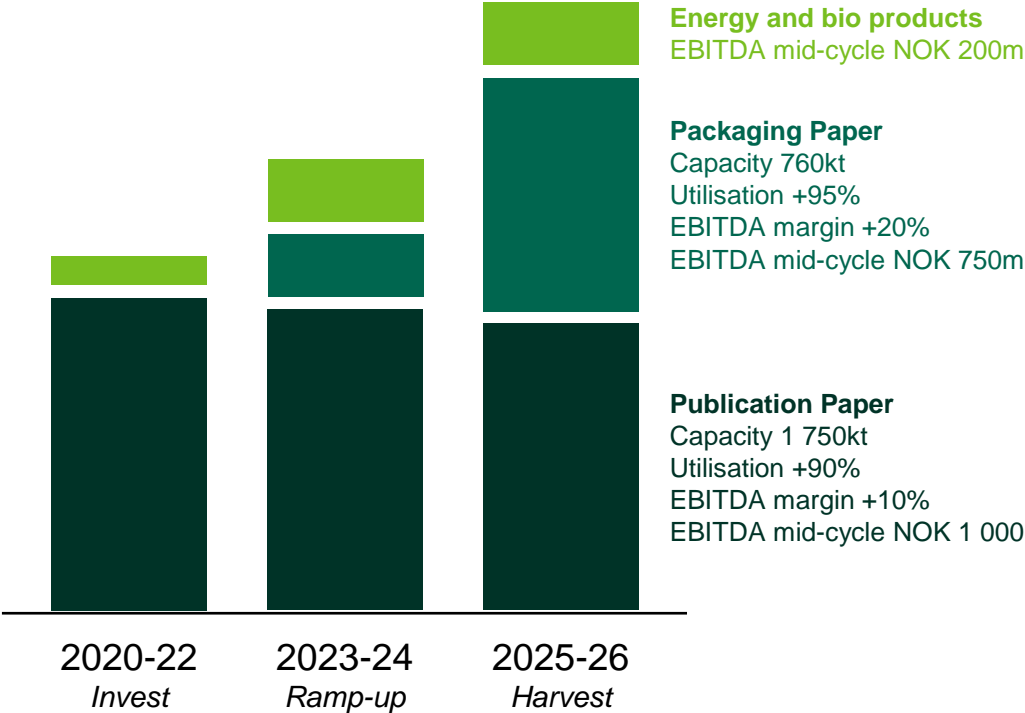
Energy and containerboard investment programmes near completion

Significant growth investments executed since 2020...

- Maintenance capex
- Expansion capex



... with earnings uplift ahead



European shift into packaging

Strategic shift into packaging paper underpinned by energy investments



Projects at **Norske Skog Bruck** completed



Waste-to-energy boiler

- Started Q2 2022
- Net capex EUR 72m
- Capacity 50 MW (heat)



Containerboard conversion

- Started Q1 2023
- Net capex EUR 120m
- Capacity 210kt



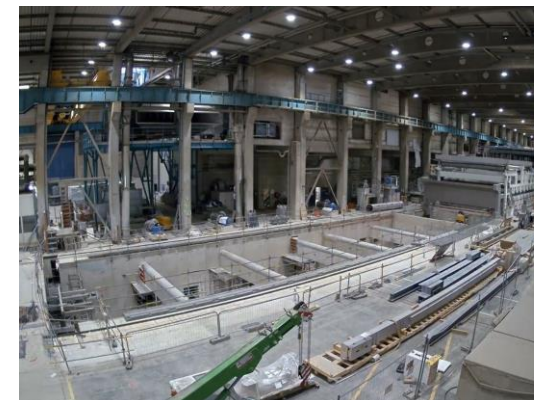
Projects at **Norske Skog Golbey** completed during Q2 2024



Biomass boiler JV

- Starting Q2 2024
- Equity share EUR 7m
- Capacity 125 MW

Green Valley Energie is a JV between Norske Skog (10%), Veolia (10%) and Pearl Infrastructure (80%), where Norske Skog will be sole offtaker of steam under a competitive long-term contract



Containerboard conversion

- Starting Q2 2024
- Net capex EUR 265m
- Capacity 550kt



Waste-to-energy providing 430 GWh cost efficient thermal energy



- Start Q2 2022 with full utilisation Q1 2023
- Gate fees for receipt of 160kt of RDF¹ at rates of EUR 70-110 per tonne
- Produces 430 GWh (50 MW) thermal energy with containerboard at Bruck as sole offtaker, replacing fossil natural gas
- Large share of CO₂ emissions from waste-to-energy classified as biogenic
- Operating costs of EUR 8m per year
- Included in Packaging Paper segment and indicated mid-cycle EBITDA effect of around NOK 200m per year



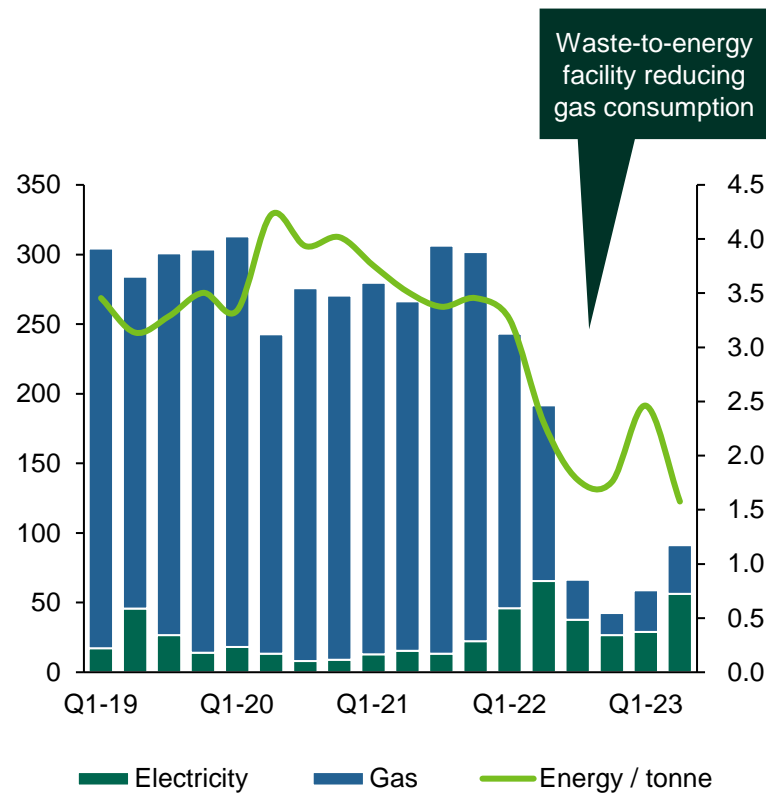
Norske Skog Bruck

Reduced gas consumption and improving economies of scale

Quarterly external energy consumption

GWh

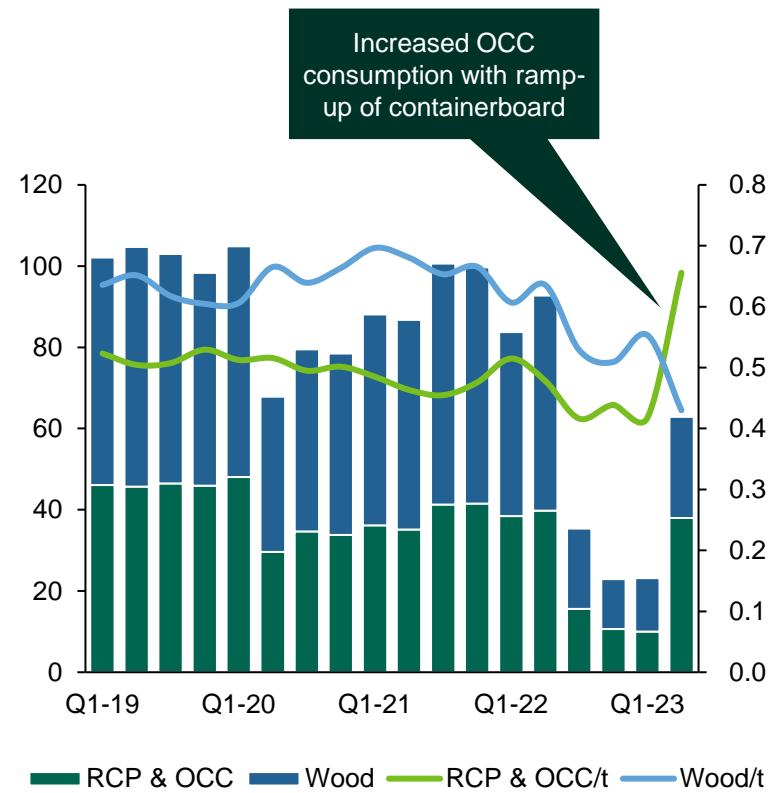
MWh per tonne



Quarterly external fibre consumption

Thousand tonnes (RCP and OCC) and thousand cubic metres (wood)

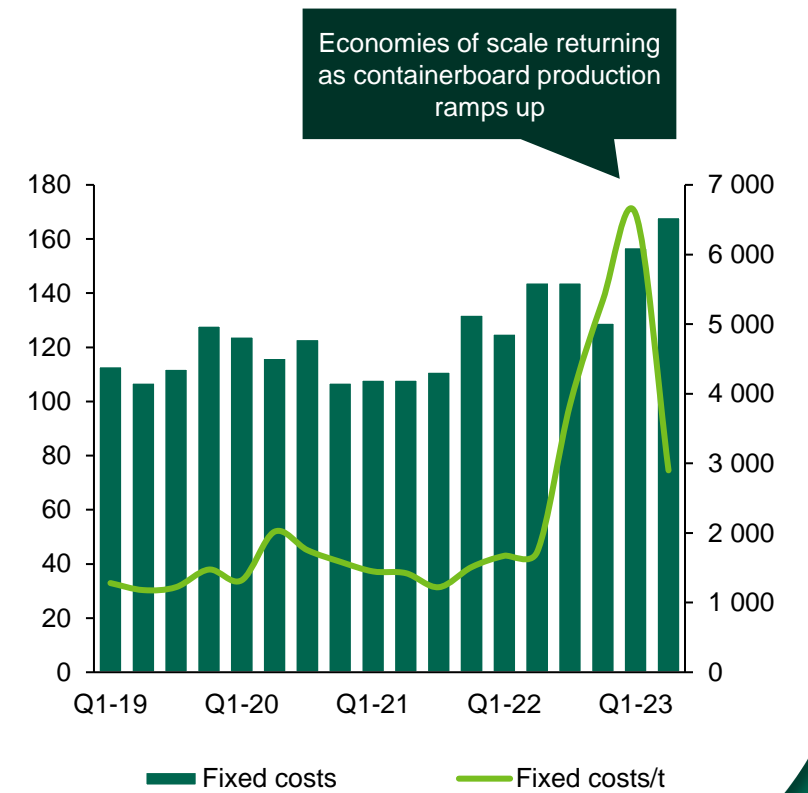
Tonnes or cubic metres per tonne



Quarterly fixed costs

NOKm

NOK per tonne



Green Valley Energie providing 700 GWh green thermal energy



- Green Valley Energie (GVE) biomass plant start-up in Q2 2024
- Sell green electricity to French grid and green steam to Golbey under long-term contracts, replacing fossil natural gas
- ~200 GWh green electricity (25 MW)
- ~700 GWh green steam (87 MW)
- ~235k tonnes waste wood feedstock
- Norske Skog participation of 10% in the GVE joint venture



Norske Skog Golbey

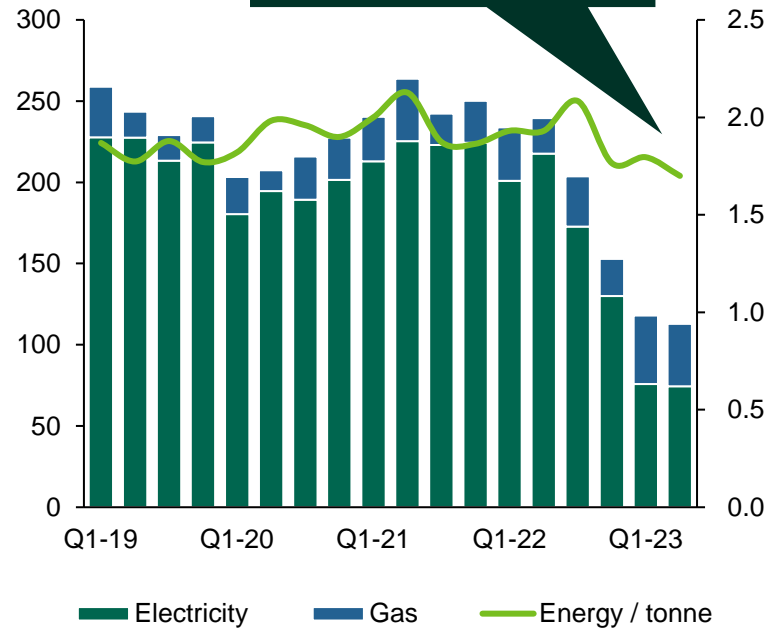
Reduced energy consumption and fully based on recycled paper

Quarterly external energy consumption

GWh

MWh per tonne

Reduced energy intensity after stopping TMP, expected to decline further as containerboard production starts up in Q2 2024

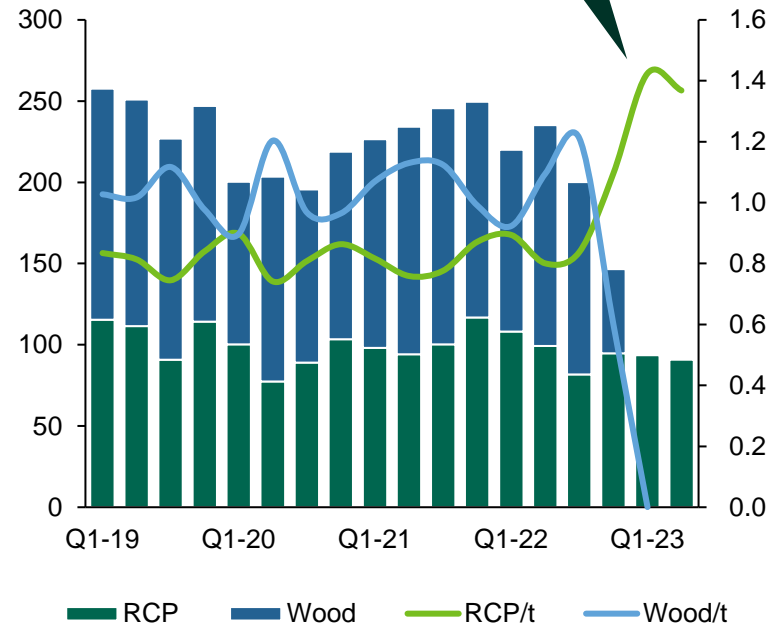


Quarterly external fibre consumption

Thousand tonnes (RCP) and thousand cubic metres (wood)

Tonnes or cubic metres per tonne

Fully based on recovered paper

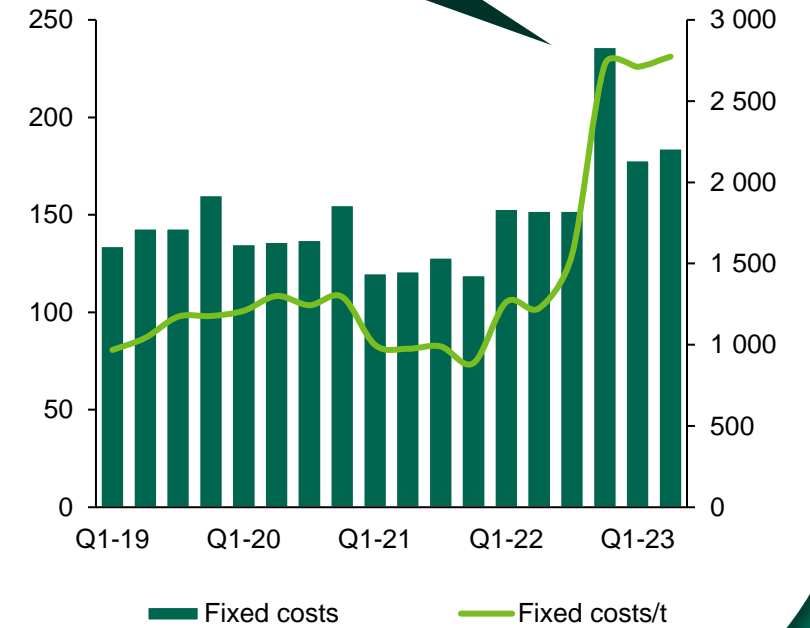


Quarterly fixed costs

NOKm

NOK per tonne

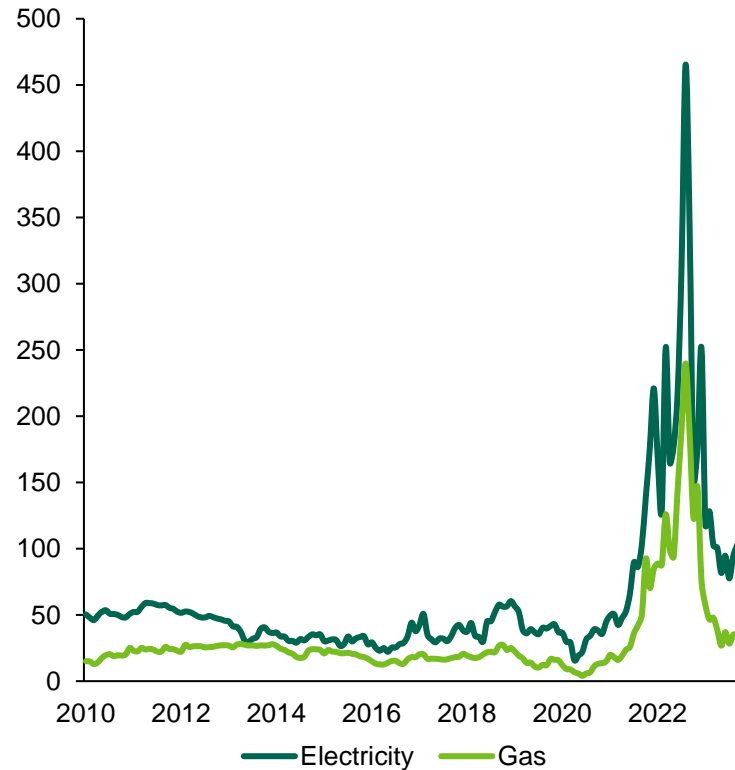
Inefficient fixed cost position until containerboard start-up in Q2 2024



Increasing input factor efficiency and strengthening internal supply is important in volatile markets

Energy prices Germany

EUR per MWh



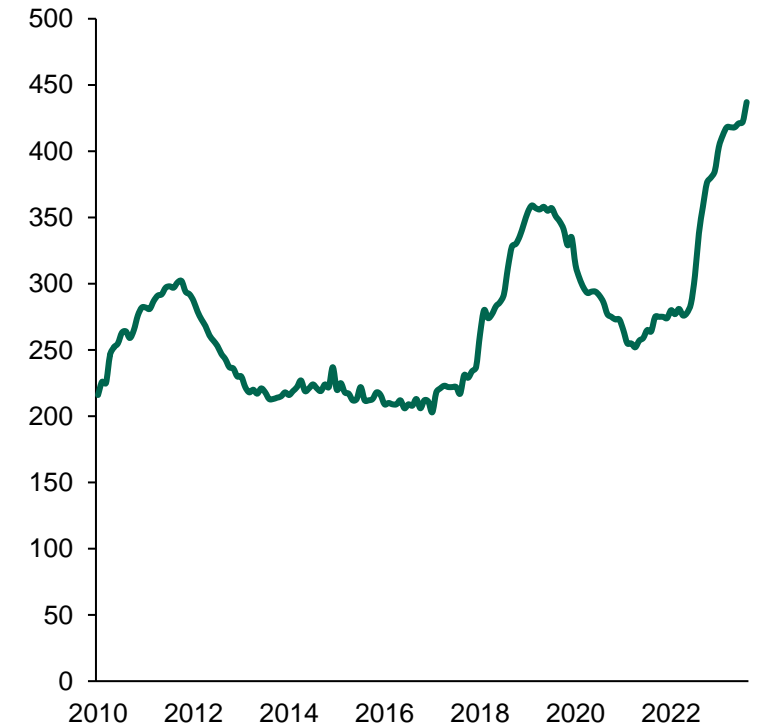
Recycled paper prices Germany

EUR per tonne



Spruce pulpwood prices Norway

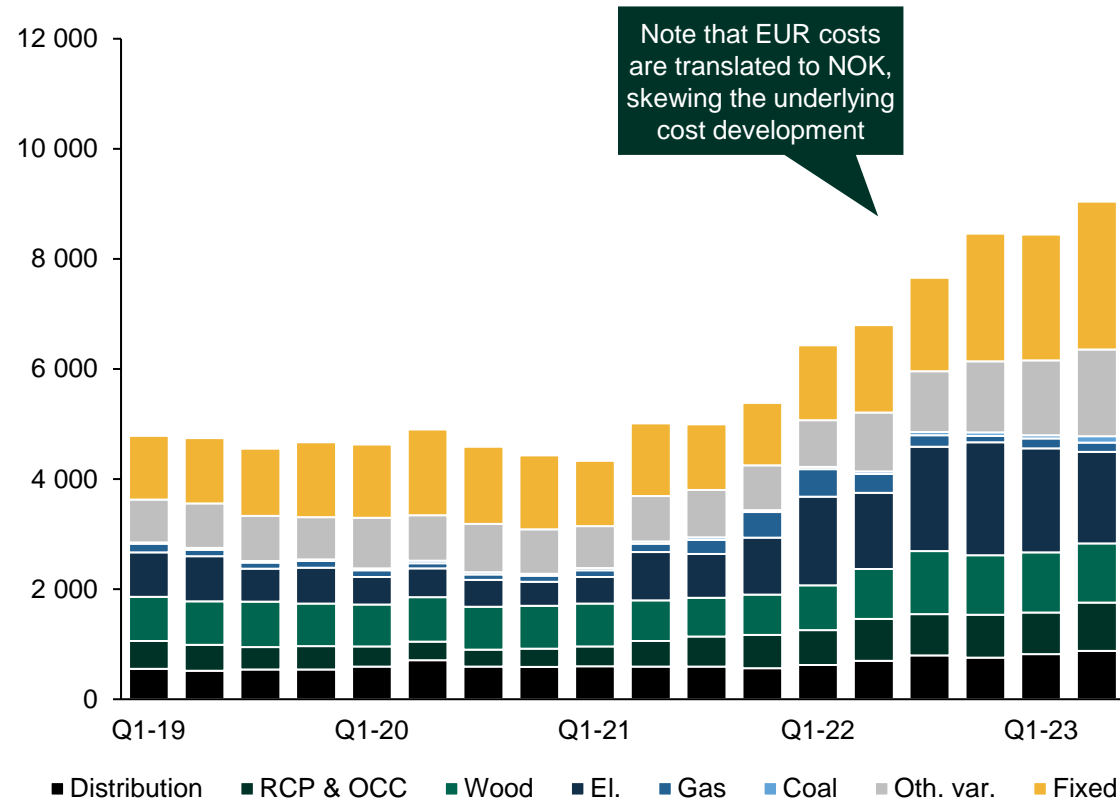
NOK per solid cubic metre



Higher input costs have naturally led to increased production costs

Underlying¹ total production and distribution cost for Norske Skog

NOK per tonne



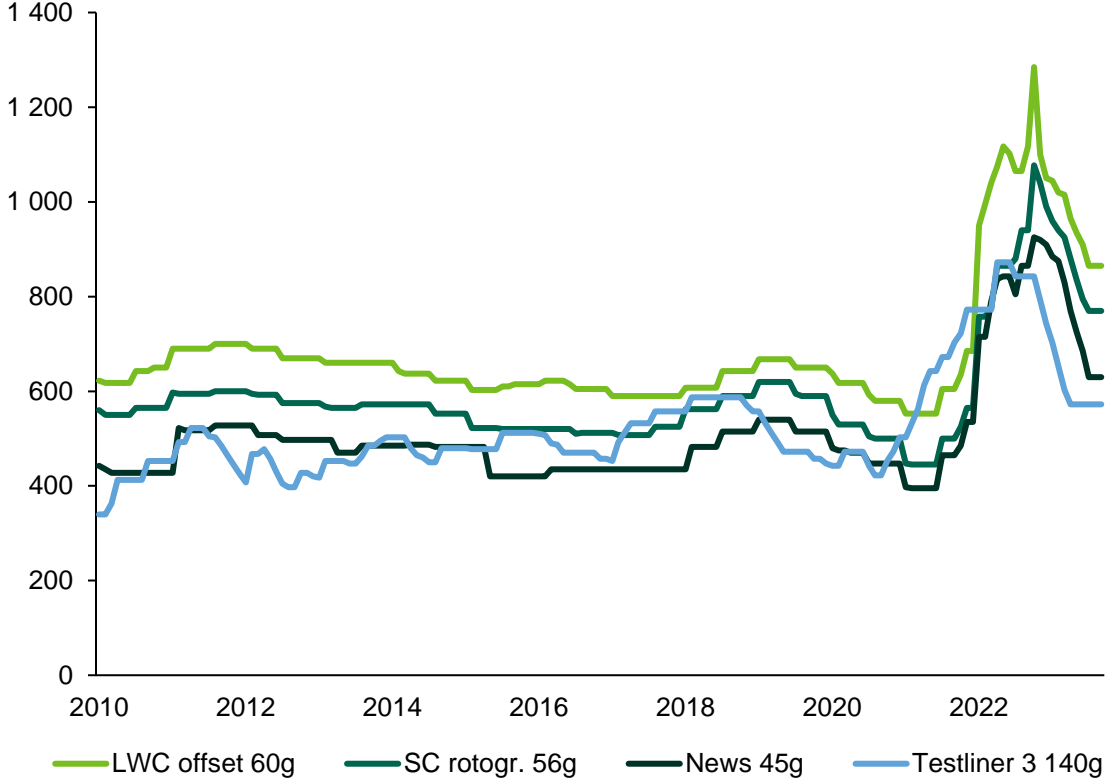
- Recycled paper costs down from recent highs, but related transportation costs have remained elevated
- Pulpwood costs and related transportation close to all time high
- Electricity and natural gas costs the main drivers of price increases for paper seen 2021-22
 - Increase for Norske Skog less than for competitors as 85-90% of electricity requirement is covered under long-term contracts
 - Norske Skog is also 85-90% covered on thermal energy from own biomass and waste-to-energy boilers
- Other variable costs, comprising mainly coating and other chemicals, early signs of easing from high levels
- Fixed cost per tonne up significantly due to conversion projects at Bruck and Golbey, and rockslide at Saugbrugs. Improved competitiveness once all machines are back in full production



Paper prices follow input cost development

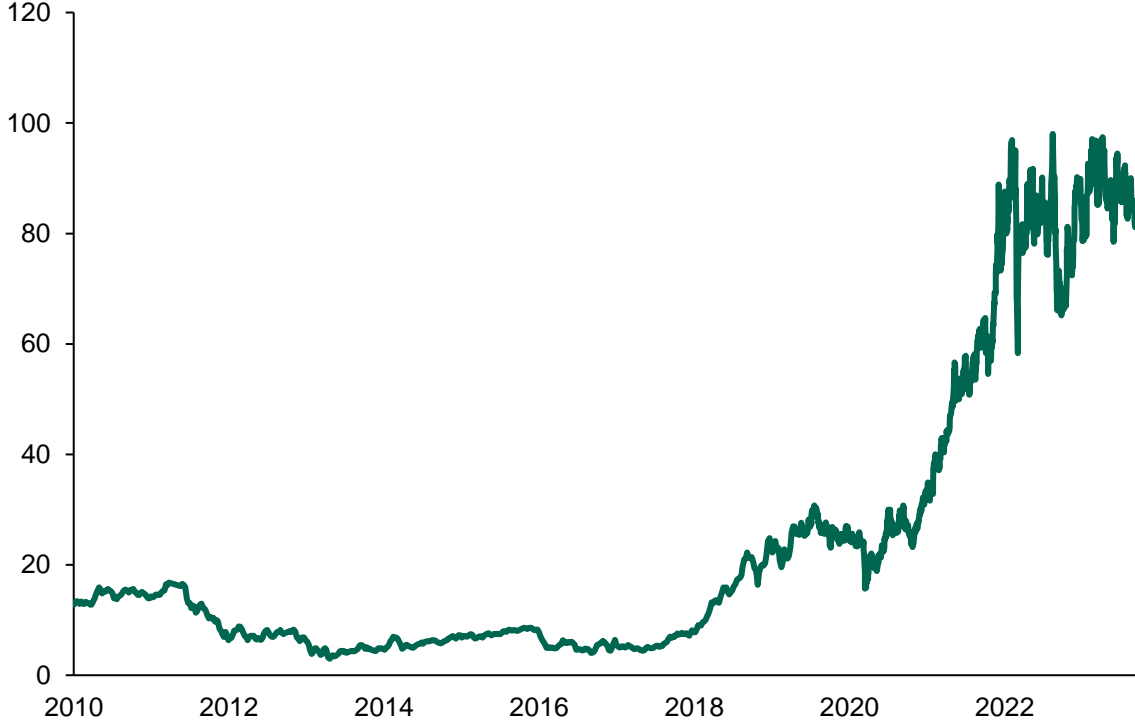
Publication paper and recycled containerboard prices Germany

EUR per tonne



European Union Allowance (EUA) price development

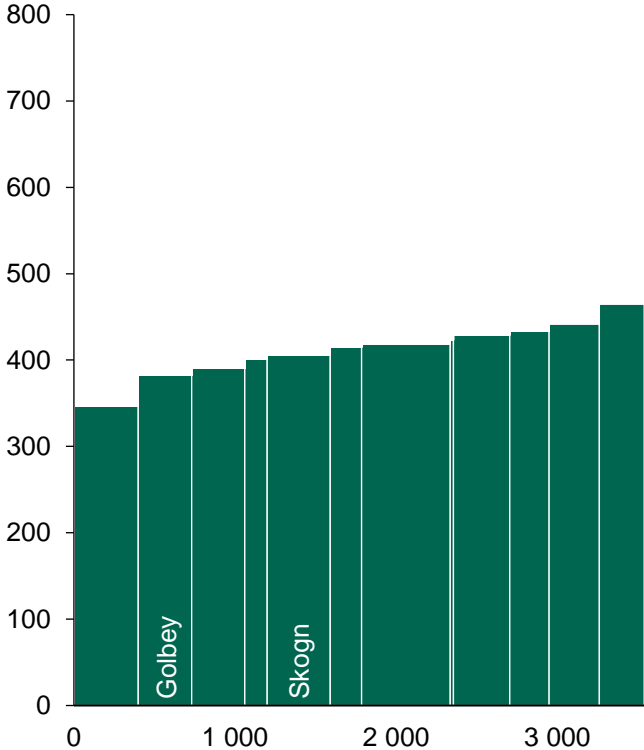
EUR per allowance



Norske Skog well positioned on the cash cost curve

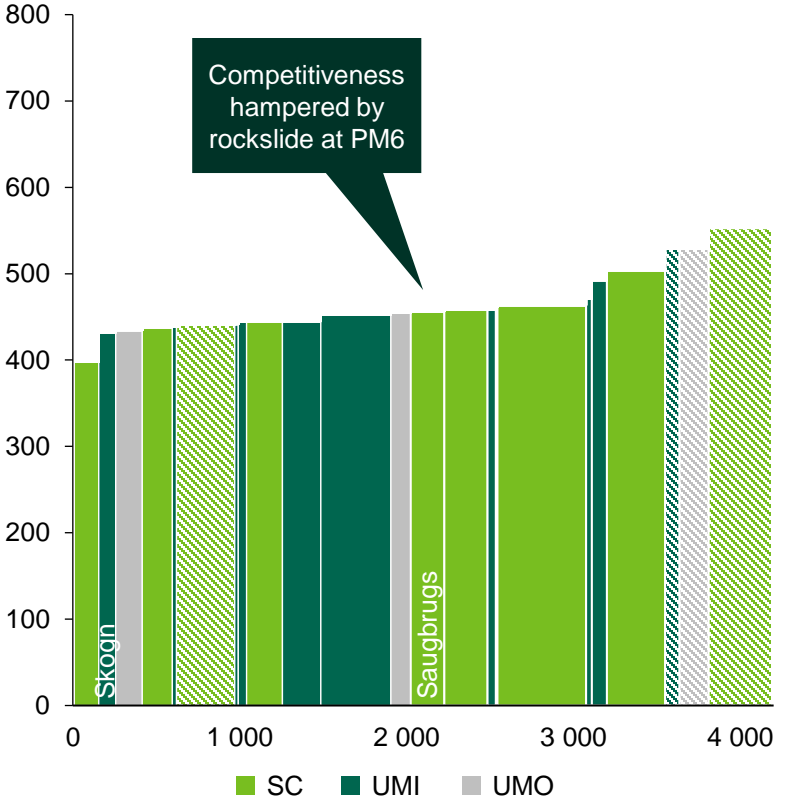
Newsprint cash cost¹ Western Europe

EUR per tonne



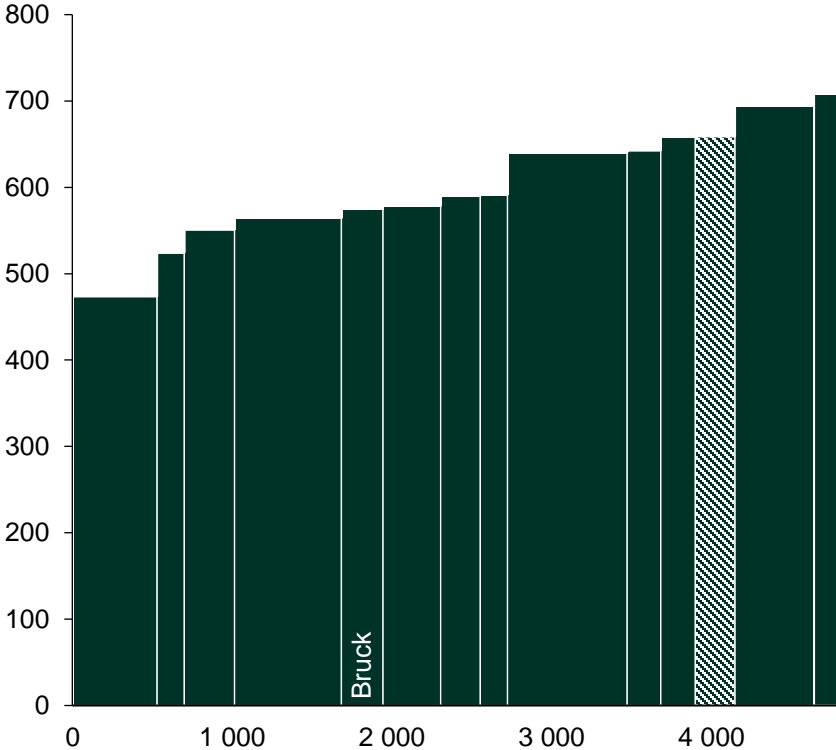
Uncoated mechanical cash cost¹ Western Europe

EUR per tonne



Coated mechanical cash cost¹ Western Europe

EUR per tonne



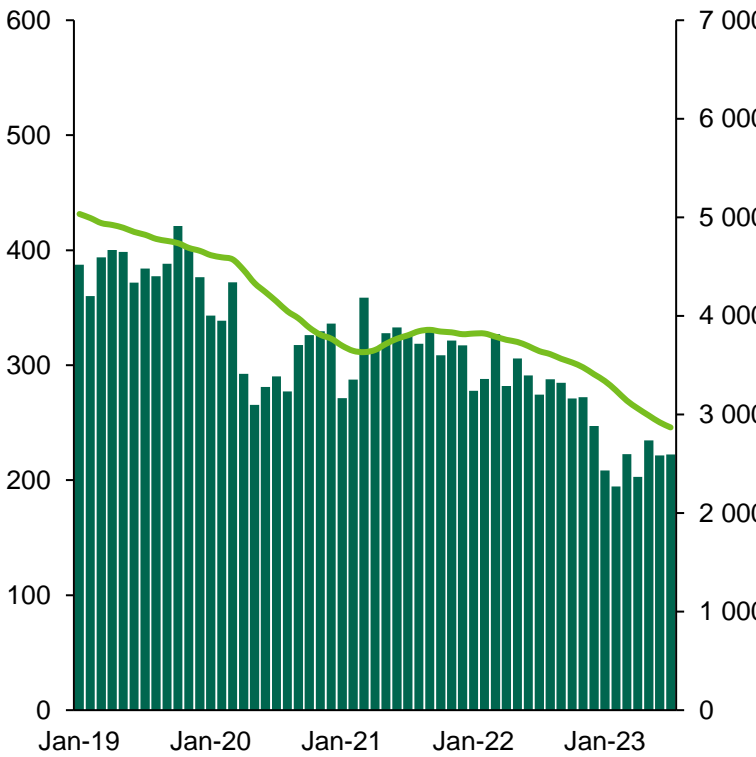
Source: RISI mill asset database as of Q2 2023
 Note: Columns with striped pattern indicate announced capacity closures by end of 2023
 1) RISI cash cost calculation is not equivalent to previous chart on total production and distribution costs



Demand stabilising following significant recent decline

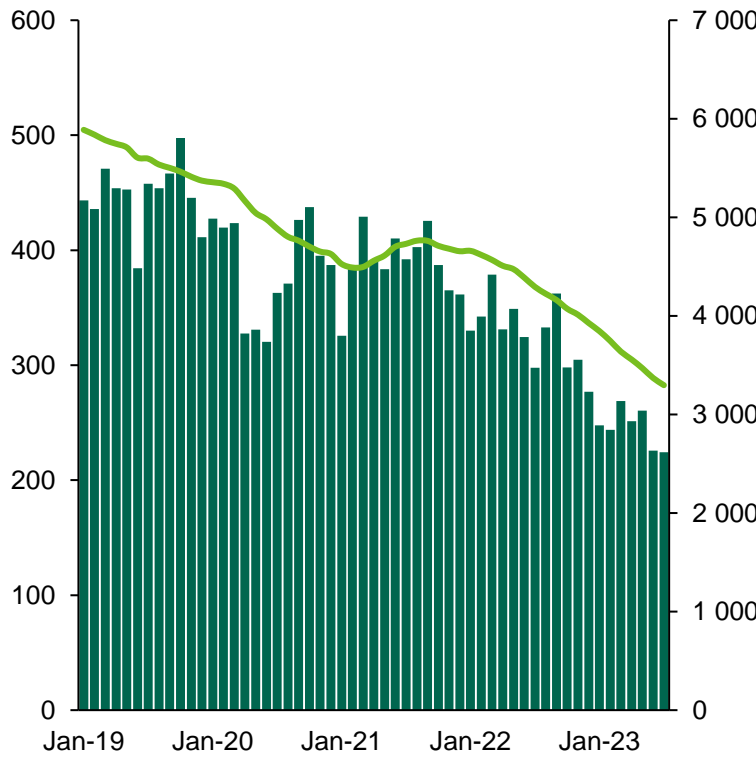
Newsprint demand, thousand tonnes

Monthly demand LTM rolling demand



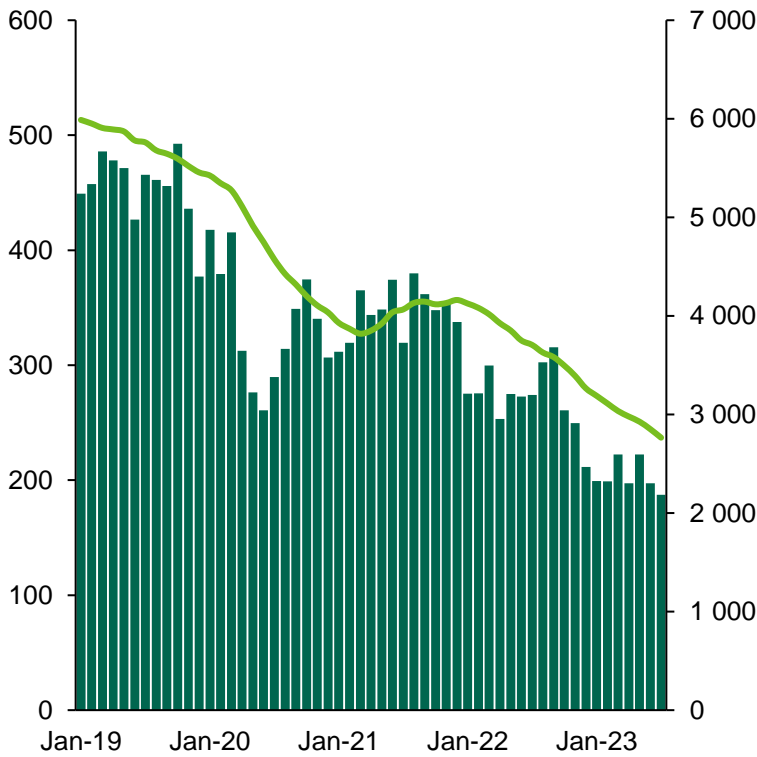
Uncoated mechanical demand, thousand tonnes

Monthly demand LTM rolling demand



Coated mechanical demand, thousand tonnes

Monthly demand LTM rolling demand

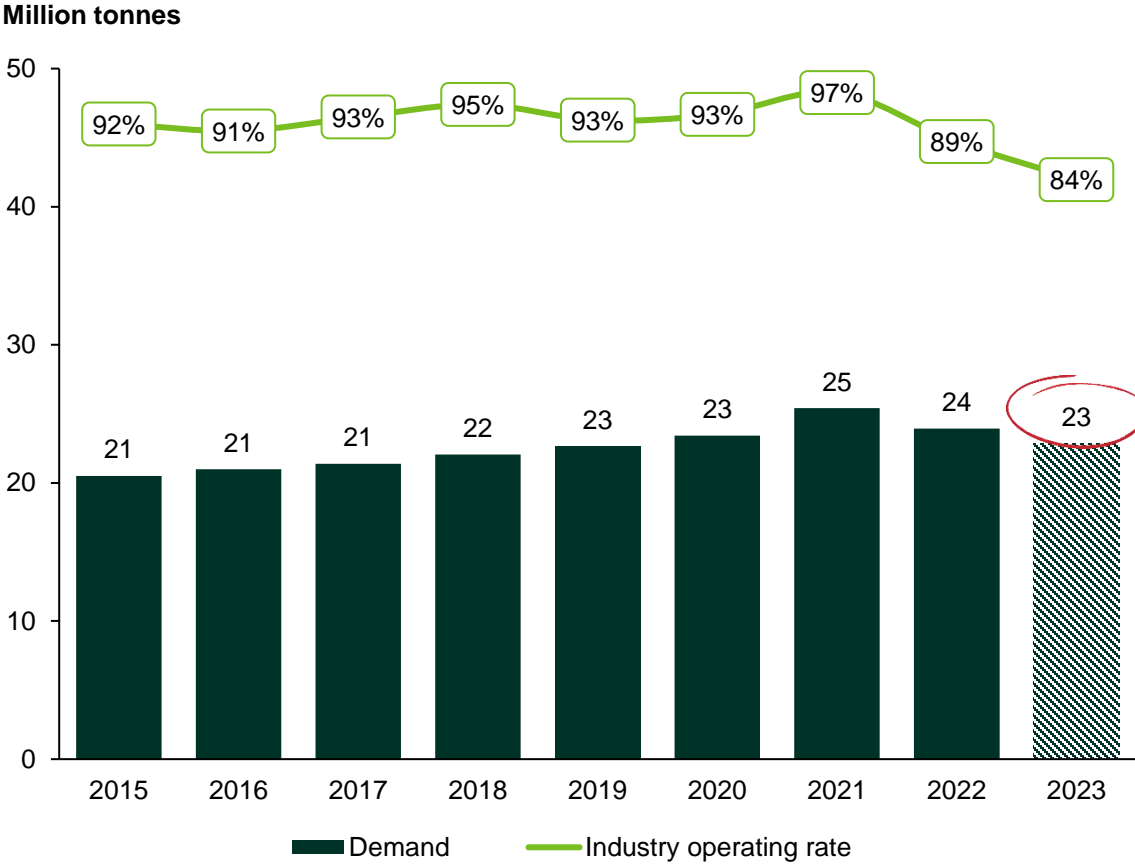


■ Monthly demand ■ Rolling LTM demand

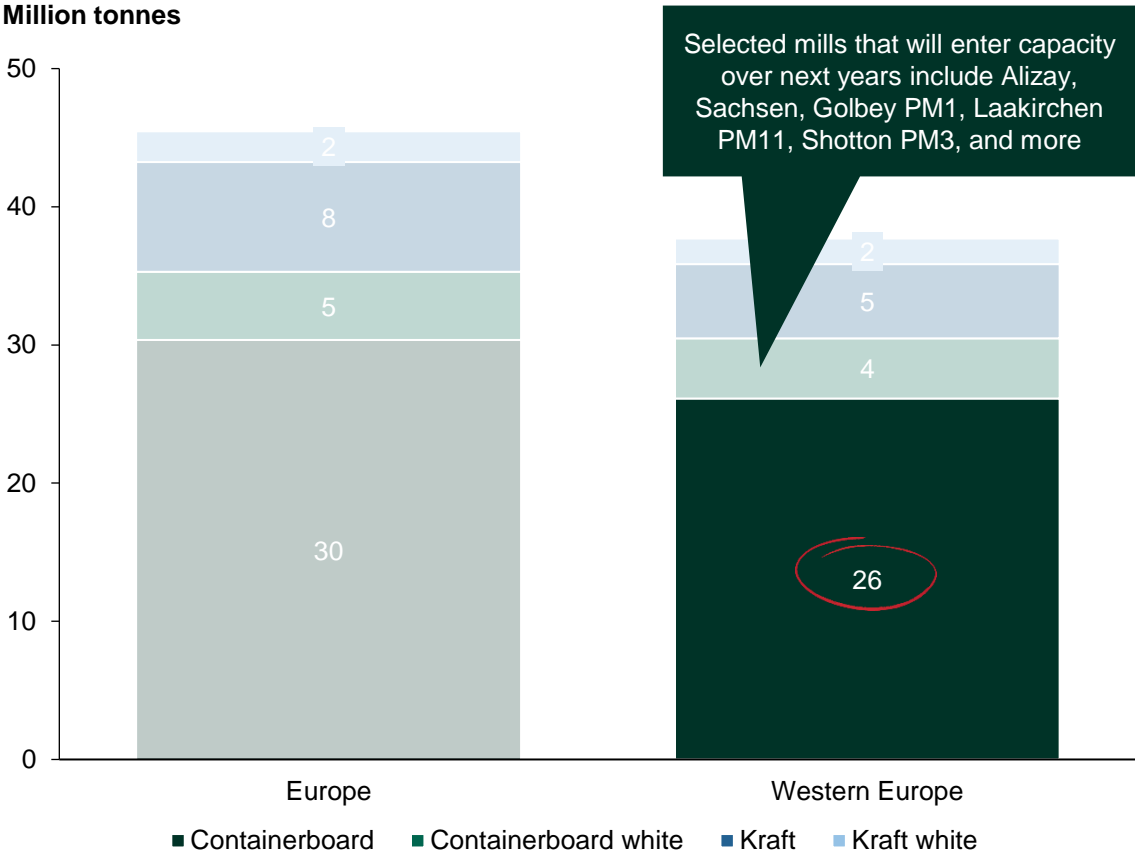


Weak containerboard market because of low demand and excess capacity

Recycled containerboard demand Western Europe



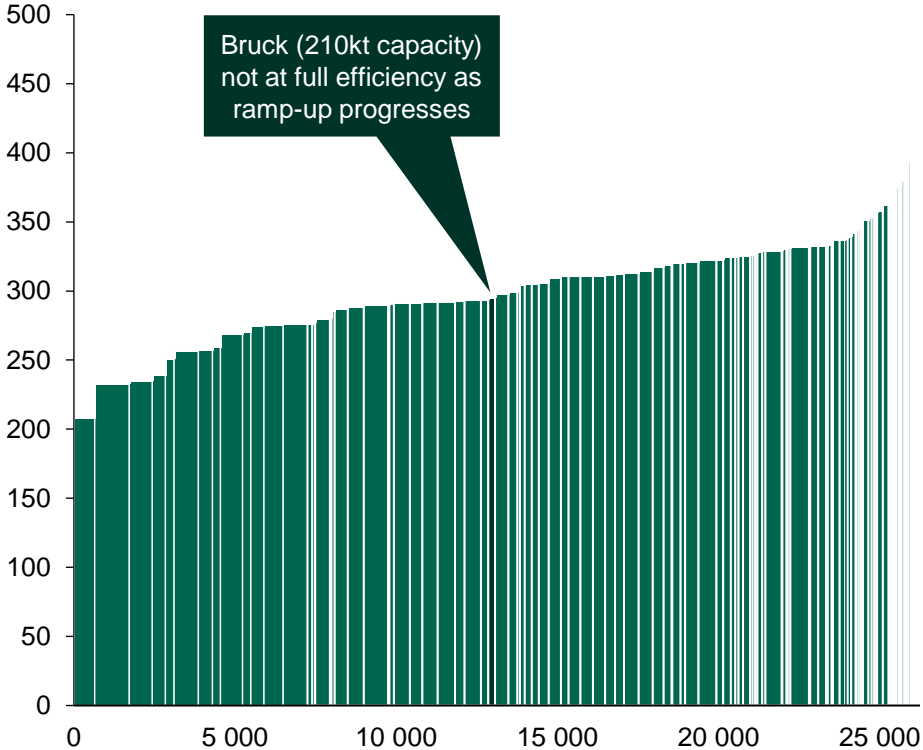
Recycled containerboard capacity Western Europe



Bruck containerboard production cost to improve as machine is ramping up

Containerboard Western Europe

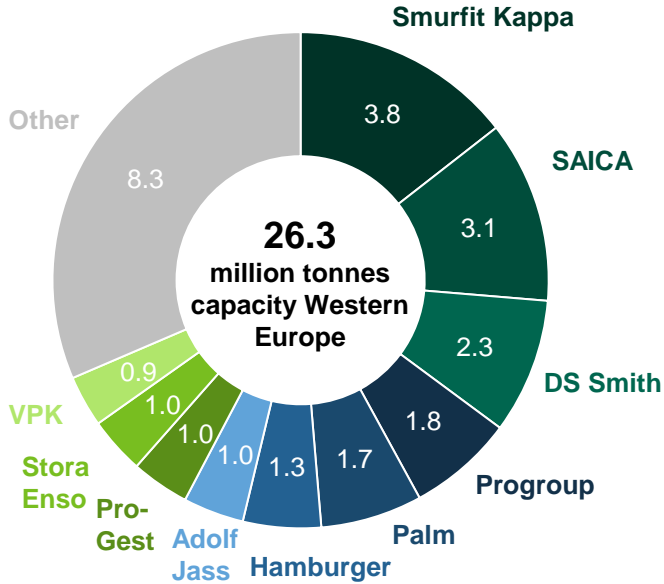
EUR per tonne



- Machine scale (60% of mills are below 200kt capacity)
- Transportation cost (centrally located in Europe)
- Thermal energy (Golbey biomass boiler and Bruck waste-to-energy)
- Electrical energy (long-term power contracts at competitive prices)
- CO₂ footprint (energy supply from sustainable sources)

Western Europe capacity by company

Million tonnes



Outlook

- Raw material and energy costs stabilising, but development remains uncertain
- Paper prices influenced by lower input costs and weak market balance
- Containerboard prices with signs of stabilising, but still a challenging market
- Further capacity closures and industry consolidation required in all markets
- Introduction of Norske Skog Bruck in the recycled containerboard market well underway, but expect negative EBITDA from packaging paper segment in 2023 as production ramps up
- Maintaining a healthy balance sheet, strong liquidity position, and low production costs





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*We create
green value*