Contents

This is Metsä Board .............................................. 3  H1 2019 Results ................................................. 32
Planned investments ............................................. 14  Sustainability ................................................... 45
Profitability drivers .............................................. 19  R&D ............................................................. 56
Operating environment ........................................ 27  Owners, management, contacts ....................... 67
Metsä Board in brief

**Year 2018:** Sales EUR 1.9bn, comparable operating result EUR 252m, ROCE 14.4%, Capex EUR 70m, Personnel 2,352

Total paperboard capacity

2Mt/a

Net pulp balance

+600,000t/a

**8** production units in Finland and Sweden

**MAIN CUSTOMERS**

Brand-owners, converters, merchants and manufactures of corrugated products

TOP10 customers: ~25% of sales

Largest customer: <5% of sales

**STRONG MARKET POSITION**

#1 in folding boxboard and white kraftliner in Europe

#1 in coated white kraftliner globally

Largest European importer of folding boxboard to US

**METSÄ BOARD IS PART OF METSÄ GROUP**

Metsä Board owns 24.9% of its associated company Metsä Fibre

Metsälitto Cooperative, owned by 104,000 Finnish forest owners, holds 42% of Metsä Board’s shares and 61% of votes

**Sales split by product**

- Market pulp 18 %
- White kraftliner 26 %
- Folding boxboard 56 %

**FY 2018:** EUR 1,944m

**Sales split by region**

- APAC 8 %
- Americas 19 %
- EMEA 74 %

**FY 2018:** EUR 1,944m
Metsä Board is focused on premium fresh fibre paperboards with various end-uses

Folding boxboards
Packaging solutions for consumer goods

Food service boards
Solutions for food service

White kraftliners
E-commerce, retail-ready tray and point-of-sale solutions
Our fresh fibre paperboards offer solutions for global trends

GLOBALISATION AND URBANISATION
We offer recyclable products that are ideal for the circular economy

SUSTAINABILITY
We use only renewable fresh fibres from sustainably managed northern forests

FOOD SAFETY
We have good control of raw materials, which guarantees purity and safety in food contact uses

E-COMMERCE
Our paperboards offer a strong promotion and branding experience
We have a leading position in Europe in our main products

Folding boxboard in Europe
Total capacity 3.8m tonnes

White kraftliner in Europe
Total capacity 2.1m tonnes

- Regional sales split of paperboard deliveries:
  - 70% EMEA
  - 23% Americas
  - 7% APAC
- In APAC we focus on high-quality FBB segment
- We are the largest European importer of FBB to US
- We are #1 in coated white kraftliners globally
Our production is close to our main raw material

**Total paperboard capacity:**
- **Folding boxboard (FBB):** 1,345,000 t/a
- **White kraftliner (WKL):** 675,000 t/a

Wood sourced from Finland, Sweden, Baltics and Russia.

- **Kemi**
  - 425,000 t/a WKL
  - 610,000 t/a Pulp*

- **Husum, SWE**
  - 400,000 t/a FBB
  - 250,000 t/a WKL
  - 730,000 t/a Pulp

- **Kaskinen**
  - 370,000 t/a BCTMP

- **Kyro**
  - 190,000 t/a FBB

- **Äänekoski**
  - 255,000 t/a FBB
  - 1.3 million t/a Pulp*

- **Simpele**
  - 290,000 t/a FBB

- **Joutseno**
  - 330,000 t/a BCTMP
  - 690,000 t/a Pulp*

- **Tako**
  - 210,000 t/a FBB

* Metsä Fibre mill

**Our net balance in pulp in 2019, including the 24.9% ownership in Metsä Fibre, is 600,000 t/a**
We have good control of wood raw materials, from forests to pulp and board production

- High availability of Northern wood
- Consistent quality of fibres that are tailor-made for the end products

METSÄ GROUP

METSÄLIITTO COOPERATIVE
Group’s parent company, owned by 104,000 Finnish forest owners

- METSÄ FOREST
  Wood supply and forest services
- METSÄ FIBRE
  Pulp and sawn timber
- METSÄ WOOD
  Wood products
- METSÄ BOARD
  Paperboard
- METSÄ TISSUE
  Tissue and cooking papers

Through Metsä Fibre’s ownership Metsä Board’s annual net pulp balance is 600,000 tonnes long in 2019
We have been growing well above average market growth rate during past years …

Metsä Board’s annual paperboard deliveries and current capacity, 1,000 tonnes

Source: Metsä Board’s own research
... driven by paperboard capacity increases

Investments in growth 2011–2018:

- **2018**: New baling line in Kaskinen BCTMP mill: 30,000 new BCTMP capacity
  - New sheeting line in Äänekoski (to be in production 9/2019)
- **2017**: New extrusion coating line in Husum: 100,000 t/a PE coating capacity
- **2015–16**: New folding boxboard production line in Husum: 400,000 t/a of FBB and linerboard production line conversion: 250,000 t/a of WKL
- **2011–12**: Debottlenecking in Simpele, Äänekoski and Kyro mills: total 150,000 t/a of FBB

Note! 2019E Capex does not include the planned investments announced on 26 April 2019
Our focus is now on profitability and a strong balance sheet …

**Comparable ROCE:**
At least 12%

**Net debt/comparable EBITDA:**
Maximum level 2.5x

**Dividend policy:**
Payout ratio at least 50% of net result

<table>
<thead>
<tr>
<th>Year</th>
<th>ROCE</th>
<th>Debt/EBITDA</th>
<th>Dividend</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>11.3%</td>
<td>&gt; 2.5x</td>
<td>44%</td>
</tr>
<tr>
<td>2016</td>
<td>8.1%</td>
<td>&lt; 2.5x</td>
<td>76%</td>
</tr>
<tr>
<td>2017</td>
<td>11.2%</td>
<td>&lt; 2.5x</td>
<td>50%</td>
</tr>
<tr>
<td>2018</td>
<td>14.4%</td>
<td>&lt; 2.5x</td>
<td>51%</td>
</tr>
<tr>
<td>H1/19</td>
<td>11.7%</td>
<td>&lt; 2.5x</td>
<td>&gt; 50%</td>
</tr>
</tbody>
</table>

In April, Metsä Board removed its earlier growth target for annual paperboard volumes. The target was to exceed average market growth. Other financial targets and the dividend policy remained unchanged.
… and our aim is to create the highest possible shareholder value

Note! Year 2018 total distribution consists of a dividend of EUR 0.10 and other distribution of equity of EUR 0.19 per share
Capital allocation in 2019

• Free cash flow
  – Since 2016 improved FCF as a result of improved profitability, decreased capex and good working capital discipline

• Our capital allocation for 2019
  – EUR 103 million dividend paid in April
  – Approximately EUR 100 million to reduce debt
  – CAPEX: return-based allocation (ROCE above 12%), ongoing pre-engineering phase regarding the renewal of Husum pulp mill

FCF=Cash flow from operations after investments
Investment plans by Metsä Board and Metsä Fibre
Metsä Board and Metsä Fibre are planning three major investments with total value of EUR 2 billion. The aim is to further improve the competitiveness of pulp and energy production and move towards fossil-free production.

- **Metsä Board: Husum, SWE**
  - Renewal of the pulp mill
  - EUR ~300 million (first phase)

- **Metsä Fibre: Kemi, FIN**
  - New bioproduct mill
  - EUR ~1.5 billion

- **Metsä Fibre: Rauma, FIN**
  - New pine sawmill line
  - EUR ~200 million

Metsä Board owns 24.9% of Metsä Fibre.
Investment in Husum pulp mill would enable the long-term development of the integrate

**First phase:** A new recovery boiler and a new turbine
- Reduced energy costs, improved reliability of production and decreased duration of maintenance
- Self-sufficiency in electricity would increase to over 80%, and be entirely based on renewable biomass
- Annual production capacity remains at 750,000 tonnes

**Second phase:** Replacing the old fibre lines with one new fibre line

**Cost efficient, long-term energy production solution will create a solid foundation to increase paperboard capacity in the future.**
Estimated time schedule for the Husum pulp mill renewal

- Prefeasibility study on the renewal concluded (06/19)
- Final investment decision expected to be made in Q4 2019, at the earliest
- New recovery boiler and turbine in operation ~24 months after the investment decision
- The investment value of the first phase is ~EUR 300 million, divided between the years 2019–2022

The second phase of the investment would take place during the 2020s after the first phase is fully completed.
Metsä Fibre is planning two major investments

New bioproduct mill* in Kemi, Finland

- Size of the investment EUR 1.5 billion
- Annual capacity 1.5 million tonnes of chemical pulp and several other bioproducts
- Final investment decision expected in the summer of 2020

New sawmill line in Rauma, Finland

- Size of the investment EUR 200 million
- Annual capacity 750,000 cubic meters
- If realised, would be the most modern and efficient sawmill line in the world
- Final investment decision in the beginning of 2020

* would replace the existing pulp mill in Kemi, with annual capacity of 630,000 tonnes of chemical pulp
Main contributors in Metsä Board’s profitability
## Our main profit components and sensitivities

<table>
<thead>
<tr>
<th>Component</th>
<th>Change</th>
<th>Impact on EBIT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Folding boxboard</td>
<td>+/- 10%</td>
<td>&gt; EUR 100 million</td>
</tr>
<tr>
<td>White kraftliners</td>
<td>+/- 10%</td>
<td>&gt; EUR 50 million</td>
</tr>
<tr>
<td>FX</td>
<td>+/- 10%</td>
<td>EUR 70 million</td>
</tr>
<tr>
<td>FX USD/EUR</td>
<td>+/- 10%</td>
<td>EUR 70 million</td>
</tr>
<tr>
<td>FX SEK/EUR</td>
<td>+/- 10%</td>
<td>EUR 50 million</td>
</tr>
<tr>
<td>Pulp</td>
<td>+/- 10%</td>
<td>EUR 25 million</td>
</tr>
<tr>
<td>Pulp Pix price of SW/HW per tonne</td>
<td>+/- 10%</td>
<td>EUR 25 million</td>
</tr>
<tr>
<td>Wood</td>
<td>+/-10%</td>
<td>EUR 30 million*</td>
</tr>
<tr>
<td>Wood Price per m$^3$ in Finnish mills</td>
<td>+/-10%</td>
<td>EUR 30 million*</td>
</tr>
<tr>
<td>Wood Price per m$^3$ in Husum</td>
<td>+/-10%</td>
<td>EUR 20 million</td>
</tr>
</tbody>
</table>

In 2018, Metsä Board sourced 5.5 million m$^3$ wood, of which 37% from Sweden, 28% Finland, 20% Baltics and 15% Russia. Including the 24.9% share from Metsä Fibre, the total sourcing was 8.5 million m$^3$.

* incl. ownership in Metsä Fibre
FX impacts and sensitivities

FX impact, including hedges:
- Q2 2019 vs Q1 2019: Neutral
- H1 2019 vs H1 2018: EUR +21 million
- Q3 2019 vs Q2 2019, estimated: Neutral

FX sensitivities excluding hedges

10% strengthening of foreign currency vs. EUR would have an impact on Metsä Board’s EBIT of

<table>
<thead>
<tr>
<th>Currency</th>
<th>Next 12 months</th>
</tr>
</thead>
<tbody>
<tr>
<td>USD, $</td>
<td>EUR +65 million</td>
</tr>
<tr>
<td>SEK, kr</td>
<td>EUR -40 million</td>
</tr>
<tr>
<td>GBP, £</td>
<td>EUR +8 million</td>
</tr>
</tbody>
</table>

Annual transaction exposure total EUR 1.1 billion

- USD 57 %
- SEK 34 %
- GBP 7 %
- Other currencies 2 %


### Main cost components and expected development

<table>
<thead>
<tr>
<th>Cost component</th>
<th>Near-term outlook</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wood</td>
<td>Prices in Finland and Sweden are expected to remain stable. In the Baltics, the price level will depend on the demand in export markets</td>
</tr>
<tr>
<td>Logistics</td>
<td>In line with general cost inflation</td>
</tr>
<tr>
<td>Chemicals</td>
<td>In line with or below general cost inflation</td>
</tr>
<tr>
<td>Energy</td>
<td>Stabilisation following the oil and electricity price hikes in 2018</td>
</tr>
<tr>
<td>Personnel</td>
<td>Approximately +2% y-on-y, mainly based on collective agreements</td>
</tr>
<tr>
<td>Other fixed</td>
<td>In line with or below general cost inflation</td>
</tr>
</tbody>
</table>

#### Metsä Board’s cost split in 2018

- **Wood**: 28%
- **Logistics**: 16%
- **Chemicals**: 15%
- **Energy**: 14%
- **Personnel**: 13%
- **Other fixed**: 14%

**Total costs in 2018**: EUR 1.7 billion

(2017: EUR 1.6 billion)
Price development of pulp in Europe (PIX)
With a net long position in pulp, Metsä Board gains from higher pulp prices

Price per tonne, USD and EUR

Long-fibre, USD
Short-fibre, USD
Long-fibre, EUR
Short-fibre, EUR

Source: Fastmarkets Foex
Price development of folding boxboard and white kraftliner in Europe

Sources: Fastmarkets RISI & Fastmarkets FOEX
Price development of roadside pulpwood in Finland and Sweden

Pulpwood roadside prices in Finland, EUR/m³

Pulpwood roadside prices in Sweden*, SEK/m³

Sources: Luke (Natural Resources Institute Finland) and Skogsstyrelsen (The Swedish Forest Agency)
FX rates development: EUR/USD and EUR/SEK
Metsä Board gains from strong USD and weak SEK
Operating environment for fresh fibre paperboards
Paperboard is the packaging material of the future

The total packaging market is USD 850 billion

Average annual growth rate of paperboard packaging

Source: Smithers Pira
We have good growth opportunities in premium paperboards

<table>
<thead>
<tr>
<th></th>
<th>Americas</th>
<th>EMEA</th>
<th>APAC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cartonboard</td>
<td>10 million tonnes</td>
<td>10 million tonnes</td>
<td>22 million tonnes</td>
</tr>
<tr>
<td>White linerboard</td>
<td>3 million tonnes</td>
<td>5 million tonnes</td>
<td>3 million tonnes</td>
</tr>
</tbody>
</table>

FSB = food service board, FBB = folding boxboard, SBS & CUK = other fresh fibre grades, WLC = recycled grades
WKL = uncoated white kraftliner, CWKL = coated white kraftliner

Source: Metsä Board research based on several sources, e.g. CEPI Cartonboard and Containerboard, RISI

Investor presentation 1–6/2019
We sell globally, but have a regional approach
The Americas is the biggest growth area

<table>
<thead>
<tr>
<th>Region</th>
<th>Share of Total Paperboard Deliveries in 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Americas</td>
<td>23%</td>
</tr>
<tr>
<td>EMEA</td>
<td>70%</td>
</tr>
<tr>
<td>APAC</td>
<td>7%</td>
</tr>
</tbody>
</table>

**Demand drivers:**
- Emerging environmental considerations
- Trend for lightweight packaging – but limited local capacity in FBB

**Demand drivers:**
- Acceleration in environmental commitments and regulations
- Stricter food safety requirements

**Demand drivers:**
- Growing upper and middle classes, and increased purchasing power
- More brand-aware consumers
- Continued shift to modern retail and mobile commerce
Branding and personalisation becoming more important in E-commerce

- Functionality, durability and consumer experience are the key words
- Demand for white kraftliner driven by
  - Increasing branding of the packaging
  - Trend towards shipping the product in its own container
  - Personalisation of boxes, supported by advanced technology in digital printing
- The global value of E-commerce is expected to grow by 20% per year on average, increasing its share of the retail trade from 10% to 18% in 2017–2021

Sources: eMarketer, Smithers Pira
Results for January – June 2019
## Key financials

<table>
<thead>
<tr>
<th></th>
<th>Q2/19</th>
<th>Q2/19</th>
<th>Change Q2/19 vs. Q1/19</th>
<th>H1/19</th>
<th>H1/18</th>
<th>Change H1/19 vs. H1/18</th>
<th>FY 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales</td>
<td>EUR, m</td>
<td>477</td>
<td>519</td>
<td>-9%</td>
<td></td>
<td>1,011</td>
<td>-5%</td>
</tr>
<tr>
<td>EBITDA*</td>
<td>EUR, m</td>
<td>68</td>
<td>84</td>
<td>-19%</td>
<td></td>
<td>178</td>
<td>-11%</td>
</tr>
<tr>
<td>Operating result*</td>
<td>EUR, m</td>
<td>41</td>
<td>59</td>
<td>-31%</td>
<td></td>
<td>128</td>
<td>-20%</td>
</tr>
<tr>
<td>% of sales*</td>
<td>%</td>
<td>8.6</td>
<td>11.4</td>
<td>10.7</td>
<td>12.7</td>
<td></td>
<td>13.0</td>
</tr>
<tr>
<td>Metsä Fibre’s share of operating result*</td>
<td>EUR, m</td>
<td>16</td>
<td>30</td>
<td>-47%</td>
<td>38</td>
<td>58</td>
<td>-34%</td>
</tr>
<tr>
<td>Earnings per share</td>
<td>EUR</td>
<td>0.10</td>
<td>0.12</td>
<td>-17%</td>
<td>0.27</td>
<td>0.27</td>
<td></td>
</tr>
<tr>
<td>ROCE*</td>
<td>%</td>
<td>9.7</td>
<td>13.9</td>
<td>11.7</td>
<td>15.1</td>
<td></td>
<td>14.4</td>
</tr>
<tr>
<td>Capex</td>
<td>EUR, m</td>
<td>18</td>
<td>15</td>
<td>20%</td>
<td>24</td>
<td>26</td>
<td>-8%</td>
</tr>
<tr>
<td>Cash flow from operations</td>
<td>EUR, m</td>
<td>31</td>
<td>36</td>
<td>-14%</td>
<td>67</td>
<td>67</td>
<td></td>
</tr>
<tr>
<td>IB Net debt, at end of period</td>
<td>EUR, m</td>
<td>380</td>
<td>388</td>
<td>-2%</td>
<td>380</td>
<td>388</td>
<td>-2%</td>
</tr>
</tbody>
</table>

*comparable
Q2 in summary

- Steady market situation in folding boxboards, more uncertainty in white kraftliners
- Pulp prices continued to weaken
- Several planned maintenance shutdowns at the Finnish mills
- Metsä Board and Metsä Fibre launched pre-engineering phases for three major investments
Total paperboard delivery volumes in Q2 slightly up from Q1

- White kraftliner
- Folding boxboard

H1 2018 total: 957k tonnes
H1 2019 total: 886k tonnes

-7% -9% +1%
Paperboard delivery split in H1 2019 vs. H1 2018
Stable in FBB, main changes in white kraftliners in EMEA

**Folding boxboard (FBB) deliveries in H1 2019 (H1 2018)**

- **1,000 tonnes**
  - Americas: 120k (127)
  - EMEA: 432k (433)
  - APAC: 50k (64)

**Total FBB deliveries**
- H1 2019: 602,000 tonnes
- (H1 2018: 624,000)

**White kraftliner (WKL) deliveries in H1 2019 (H1 2018)**

- **1,000 tonnes**
  - Americas: 97k (93)
  - EMEA: 183k (237)
  - APAC: 4k (3)

**Total WKL deliveries**
- H1 2019: 284,000 tonnes
- (H1 2018: 332,000)
Sales and profitability behind year-on-year levels

**Sales**

<table>
<thead>
<tr>
<th>Year</th>
<th>Sales (EUR million)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>1700</td>
</tr>
<tr>
<td>2017</td>
<td>1800</td>
</tr>
<tr>
<td>2018</td>
<td>1900</td>
</tr>
<tr>
<td>H1 18</td>
<td>980</td>
</tr>
<tr>
<td>H1 19</td>
<td>1070</td>
</tr>
</tbody>
</table>

**Comparable operating result**

<table>
<thead>
<tr>
<th>Year</th>
<th>Comparable operating result (EUR million and % of sales)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>8.0%</td>
</tr>
<tr>
<td>2017</td>
<td>10.5%</td>
</tr>
<tr>
<td>2018</td>
<td>13.0%</td>
</tr>
<tr>
<td>H1 18</td>
<td>12.7%</td>
</tr>
<tr>
<td>H1 19</td>
<td>10.7%</td>
</tr>
</tbody>
</table>

Operating result, % of sales:
- Q2/19: 8.6%
- Q1/19: 12.7%
Higher FBB prices supported operating result in H1 2019, negative from lower pulp prices and higher production costs

Comparable operating result
Q1 2019 vs. Q2 2019
- market pulp
- annual maintenance
+ FBB prices
+ paperboard production costs
Q1 2019: EUR 62 million
Q2 2019: EUR 41 million

Comparable operating result
H1 2018 vs. H1 2019
- production costs
- lower delivery volumes
- market pulp
H1 2018: EUR 128 million
H1 2019: EUR 103 million
+ improved prices in paperboard
+ changes from FX
H1 2019 ROCE at 11.7%

Return on capital employed, %

- **Target level > 12%**
- R12m: 13.3%
- Q2/19: 9.7%

- **H1 2019 ROCE at 11.7%**
Pulp prices in Europe have continued to slide throughout H1 2019

- In 2019, activity in the pulp market picked up in Q1, especially in China, but weakened again in Q2
- The PIX price of NBSK in Europe has declined by $200/tonne from the beginning of year
- Annual maintenance shutdowns and production curtailments by some producers will reduce short term supply
- Producers’ inventory levels globally are still very high
Cash flow from operations EUR 67 million in H1 2019

Free cash flow = cash flow from operations − investments
Net debt increased from Q1, leverage at 1.2x

Net debt / EBITDA target level: <2.5

EUR million

<table>
<thead>
<tr>
<th>Date</th>
<th>Net debt / EBITDA</th>
</tr>
</thead>
<tbody>
<tr>
<td>6/2017</td>
<td>2.0</td>
</tr>
<tr>
<td>9/2017</td>
<td>1.7</td>
</tr>
<tr>
<td>12/2017</td>
<td>1.2</td>
</tr>
<tr>
<td>3/2018</td>
<td>1.1</td>
</tr>
<tr>
<td>6/2018</td>
<td>1.2</td>
</tr>
<tr>
<td>9/2018</td>
<td>1.0</td>
</tr>
<tr>
<td>12/2018</td>
<td>1.0</td>
</tr>
<tr>
<td>3/2019</td>
<td>0.9</td>
</tr>
<tr>
<td>6/2019</td>
<td>1.2</td>
</tr>
</tbody>
</table>
Debt and its maturity
30 June 2019

- Interest-bearing debt on 30 June was EUR 466 million (30.6.2018: EUR 483 million)
- Interest-bearing net debt on 30 June was EUR 380 million (30.6.2018: EUR 388 million)

In addition, Metsä Board has an undrawn revolving credit facility of EUR 150 million maturing in 2020 and unraised pension loans of EUR 166 million.
Near-term outlook

• Paperboard delivery volumes in Q3 are expected to remain roughly at the Q2 level
• Good market situation for FBB, some uncertainty with white kraftliners
• Average market pulp prices will be lower in H2 2019 compared to H1 2019
• Planned maintenance shutdowns in Q3:
  – Kemi integrate, Husum integrate (partly)
  – Metsä Fibre’s Rauma pulp mill
• Stable production costs and FX impacts in Q3 compared to Q2
• Metsä Board’s comparable operating result for Q3 2019 is expected to weaken compared to Q2 2019
Sustainability
Sustainability is on everybody’s agenda

- Growing consumer awareness: Origin and transparency of materials, renewability, resource efficiency and recyclability
- Brand owners are committed to reducing their carbon footprints: Lighter packaging reduces CO₂ emissions across the value chain

“Our comprehensive approach to reducing our environmental impact means looking at all aspects of our business, how they intersect and how we can integrate new solutions to create meaningful and sustained change.”

– Starbucks website

“We want low-carbon to become the new normal, so we’re taking action to reduce GHG emissions throughout our value chain.”

– Unilever website
Alternative to plastics: Paperboard adds value to packaging

• Consumers regard paperboard as a more responsible choice than plastic packaging – willingness to pay more for it
• Paperboard cartons preserved the cherry tomatoes at least as well as the plastic equivalent
• The climate effect of a recycled PET container was calculated at six times higher than the average value for the paperboard cartons

A detailed consumer study with cherry tomatoes was carried out in Finland by Sense N Insight, Luke (Natural Resources Institute Finland) and Metsä Board
Fresh fibre paperboards offer solutions to major challenges

Increased waste generation due to urbanisation
The solution: Paperboard is recyclable – and widely recycled

Replacing fossil-based materials, i.e. plastics
The solution: renewable and biodegradable wood fibre

Reducing carbon footprint
The solution: renewable energy, efficient energy and water usage in production

Ensuring food safety
The solution: pure and safe fresh fibres in food packaging
Lighter packaging reduces CO\textsubscript{2} emissions across the value chain – Our fossil CO\textsubscript{2} emissions per product tonne have reduced by almost 50% since 2009.
Wood is our main raw material

- Metsä Board sources its wood mainly from Finland and Sweden (65 %)
- All wood used is 100% traceable and comes from sustainably managed forest sources ensuring the bio-diversity and recreational use of forests
- 79% of wood sourced is certified (remaining 21 % from controlled forest sources)
Finland – the largest forest cover in Europe

- Annual growth of Finnish forests is over 100 million m³ – more than ever.
- Forests grow more than they are used, annual harvesting 72 million m³ (2017).
- Four seedlings are planted for each harvested tree.
- Over 20% of the Finnish export comes from forest-based products.
We have decreased our process water use by 20% since 2010

- Metsä Board uses only surface water in its processes
- Water is been recirculated in processes several times
- 99% of the water used is returned back to the close-by waterways after thorough purification
Our energy efficiency has improved by almost 12% during 2009–2018

- Over 80% of primary energy we use is fossil free
- After OL3\(^1\) starts up, we will be nearly self-sufficient in electricity in Finland
  - Including the electricity used in Husum mill, self-sufficiency will be nearly 80%
- Metsä Board’s shareholding in PVO\(^2\) is 3.2%
  - Fair value as per 31 December 2018 was EUR 266 million

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\(^1\) Olkiluoto Nuclear Power Plant

\(^2\) Pohjolan Voima Oyj is a non-listed public limited liability company. It supplies electricity and heat for its shareholders at cost price

\(^3\) Out of 44% share of purchased energy, 14% is from Metsä Fibre
Metsä Board’s strategic 2030 sustainability objectives and targets

WE BRING THE FOREST TO YOU

Certified wood fibre
- Share of certified fibre >90%

Increasing the amount of carbon stored in forests and products
- Area of regeneration and management of young stands +30% vs. 2018
- Amount of carbon stored in products (t) +30% vs. 2018

Safeguarding biodiversity
- Increasing the amount of decayed wood: high biodiversity stumps in 90% of thinnings and retention trees in all regeneration logging sites

WE WORK FOR A BETTER CLIMATE AND ENVIRONMENT

Fossil free mills
- Fossil CO₂ emissions 0 tCO₂ (Scope 1)

Fossil-free purchased energy
- Fossil CO₂ emissions, 0 tCO₂ (Scope 2)

Resource efficient production
- Utilisation of side-streams 100%
- Process water use per product ton (m³/t) – 30% vs. 2018
- Energy efficiency improvement >10% vs. 2018

WE OFFER SUSTAINABLE CHOICES

Fossil free raw materials
- Share of fossil free raw materials 100%

Sustainable supply chain
- Sustainable suppliers 100%
- Traceability of raw materials 100%

WE CREATE WELL-BEING

Responsible corporate culture
- Ethics barometer 100%

Accident-free work environment
- Accident frequency LTA1 0

Investor presentation 1–6/2019
External recognition and commitments

Metsä Board has been included on the CDP Water A List every year since 2015 and on the CDP Climate A List since 2016. In addition, Metsä Board has scored A- in the CDP Forest programme since 2015, and is included on the Supplier Engagement leader board in 2019 for its efforts to address climate change.

Metsä Board scored the highest recognition level “Gold” in EcoVadis’ CSR ranking in 2018, and is included in the top 1% of suppliers assessed across all categories.

Metsä Board as a part of Metsä Group is committed to the UN Global Compact corporate responsibility initiative and its principles in the areas of human rights, labour, environment and anti-corruption.

Metsä Board received a rating of AAA (on a scale of AAA-CCC) in the MSCI ESG Ratings assessment in June 2018.

Metsä Board was awarded “Prime” status in ISS-oekom corporate responsibility rating in May 2018.

Metsä Board has an overall ESG score of 86/100 and is considered a Leader in Sustainalytics’ assessment in May 2018.

As a member of Pack2Go Europe Metsä Board is committed to the environmental, health and safety aspects within the on-the-go food and beverage packaging industry.

Metsä Board is committed to Science Based Targets to reduce its GHG emissions in line with the goal of the Paris Agreement.

Metsä Board has been included on the CDP Climate A List since 2018.
Research and Development
Our key product development focus areas

**LIGHTWEIGHTING**

- Improved BCTMP
- Microfibrillated cellulose (MFC)
- Strength additives

**BARRIER BOARDS**

- Dispersion barriers
- Bio-based raw materials
Our R&D and innovation work is based on sustainability

• Metsä Board launched its renewed FBB portfolio in April helping customers tackle big issues in packaging: To save resources and reduce carbon footprint

• A new R&D excellence centre to be established in Äänekoski to boost the development of new paperboard and packaging solutions of the future
The role of packaging is to promote the brand and protect the product – in a cost-effective way.
We achieve high bending stiffness from a strong outer layers and a thick and light inner layer.
High-yield pulp makes the difference between folding boxboard and other grades …

- **Light weight** — better yield and sustainability
- **High strength and bending stiffness** — secure protection
- **High brightness and smoothness** — excellent printability
- **Consistent quality** — improved production efficiency
... and leave more trees standing

SBS
(100% chemical pulp)

Metsä Board FBB
(up to 70% BCTMP,
30% chemical pulp)

5 m³ of wood per tonne of pulp

3.4 m³ of wood per tonne of pulp
Lighter-weight paperboards: **Better with Less**

The weights equal to a print job of 30,000 sheets on a standard size printing press

- **WLC** – White lined chipboard
- **SBB** – Solid bleached board
- **Average FBB** – Folding boxboard
- **Metsä Board** lightweight paperboard

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Investor presentation 1–6/2019
Metsä Board enhances its leading position in premium lightweight paperboards

In April 2019, we announced our new, improved FBB portfolio, that answers to increasing demands for sustainability, product safety and brand promotion:

- Further opportunities for lightweighting
- Enhanced visual properties
- Industry-leading quality consistency
- Improved supply security and availability

Enabled by our improved high-yield BCTMP and full R&D focus on paperboard
Brand-owners seek more sustainable packaging solutions

- Fresh fibre paperboards can help replace non-renewable packaging materials
- Metsä Board’s eco-barrier paperboard
  - is developed especially for food service use with short food contact time and when light grease resistance is sufficient
  - has an industrial compostability certification
Getting familiar with terminology:
Barrier boards types

Examples of materials used in coating

<table>
<thead>
<tr>
<th>BIODEGRADABLE</th>
<th>NON-BIOBASED</th>
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<tbody>
<tr>
<td>PLA (polylactide): often based on corn starch</td>
<td></td>
</tr>
<tr>
<td>PVA (polyvinyl alcohol) PBS (polybutylene succinate)</td>
<td></td>
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</table>

<table>
<thead>
<tr>
<th>BIOBASED</th>
<th>NON-BIOBASED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Green PE: made from biomaterials</td>
<td></td>
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<tr>
<td>PE: made from fossil raw materials, used in extrusion coating</td>
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</tbody>
</table>

Note!
Biobased material = Renewable material ≠ Compostable ≈ Biodegradable
Owners, management and contact information
Market cap and ownership distribution
Metsä Board shares are listed on Nasdaq Helsinki
Metsä Board Corporate Management Team

Mika Joukio
CEO
Chairman of CMT since 2014
MG employee since 1990
Share ownership: 297,700

Jussi Noponen
CFO
Member of CMT since 2016
MG employee since 2000
Share ownership: 73,000

Sari Pajari
SVP, Marketing and Sales
Member of CMT since 2011
MG employee since 2007
Share ownership: 66,075

Ari Kiviranta
SVP, Development
Member of CMT since 2014
MG employee since 1993
Share ownership: 50,000

Harri Pihlajaniemi
SVP, Production
Member of CMT since 2017
MG employee in 2001-2004 and since 2017
Share ownership: no ownership

Camilla Wikström
SVP, HR
Member of CMT since 2019
MG employee since 2001
Share ownership: 17,807

Share ownerships are B-shares.
MG = Metsä Group
Contact information

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