Outlook For The Turkish Wood Panel Industry & Outlook For Woodchip Demand

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AĞAÇ BAZLI PANEL SEKTÖRÜNÜN GLOBAL OYUNCUSU
GLOBAL PLAYER OF THE WOOD BASED PANEL INDUSTRY
OUTLINE

ECONOMIC AND DEMOGRAPHIC OUTLOOK OF TURKEY
THE FOREST INVENTORY OF TURKEY
GLOBAL AND TURKISH WOOD BASED PANEL INDUSTRY
GENERAL VIEW TO THE TURKISH WOODCHIP MARKET
HAYAT HOLDING
KASTAMONU ENTEGRE
Rumeli Fortress

AĞAÇ BAZLI PANEL SEKTÖRÜNÜN GLOBAL OYUNCUSU - GLOBAL PLAYER OF THE WOOD BASED PANEL INDUSTRY
AĞAÇ BAZLI
PANEL SEKTÖRÜNÜN
GLOBAL OYUNCUSU

GLOBAL PLAYER
OF THE WOOD BASED
PANEL INDUSTRY

Bosphorus
Galata Tower
Maiden Tower
Balloon Tour In Cappadocia Fairy Chimneys
ECONOMIC AND DEMOGRAPHIC FIGURES OF TURKEY
The population of TURKEY is around 80 Million

50.2% of the population is MALE

49.8% of the population is FEMALE

92.1% of the population live in province and district centers
7.9% in small town and villages

Source: TURKSTATS, Undersecretariat of Treasury
YOUNGEST POPULATION IN EUROPE

AVERAGE AGE

TURKEY
30

EUROPE
43

Source: TURKSTATS, Undersecretariat of Treasury
WORLD’S BIGGEST ECONOMIES

<table>
<thead>
<tr>
<th></th>
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<tbody>
<tr>
<td>United States</td>
<td>19,390,604</td>
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<td>2,582,501</td>
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<td>Brazil</td>
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<td>Italy</td>
<td>1,934,798</td>
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<td>Canada</td>
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<td>Russian Federation</td>
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<td>Korea, Rep.</td>
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<td>Saudi Arabia</td>
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<td>Sweden</td>
<td>538,040</td>
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<td>Poland</td>
<td>524,510</td>
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<td>Belgium</td>
<td>492,681</td>
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Source: World Bank
## EUROPE’S BIGGEST ECONOMIES

<table>
<thead>
<tr>
<th>Country</th>
<th>GDP Nominal, Million US$, 2017</th>
<th>Source</th>
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<td>Germany</td>
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<td>World Bank 17</td>
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<td>United Kingdom</td>
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<td>France</td>
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<tr>
<td>Sweden</td>
<td>538,040</td>
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</table>

GDP Nominal, Million US$, 2017

Source: World Bank
GDP PER CAPITA OF TURKEY

GDP per capita (current US$)
Source: World Bank
GDP GROWTH RATE OF TURKEY (Annual Average)

GDP Growth Rate Annual
Source: World Bank
The Number of Houses Sold in Turkey, 2013-2017

Source: Turkish Statistical Institute
THE FOREST INVENTORY OF TURKEY
FOREST MAP OF TURKEY

Source : Ministry of Forestry And Water Affairs
NATIONAL FOREST LAND OF TURKEY

Million Hectares

Source: Ministry of Forestry And Water Affairs
FOREST INVENTORY OF TURKEY BY YEARS

Source: Ministry of Forestry And Water Affairs
TREE TYPES IN TURKEY

Source: Ministry of Forestry And Water Affairs

- **%56** Pine
- **%24** Oak
- **%9** Beech
- **%11** Others
WOOD BASED PANEL MARKET ANALYSIS
GLOBAL SECTOR ANALYSIS (MDF, PB, OSB) 2007-2016

CAGR 3.3%

Source: FAOSTAT
**GLOBAL SECTOR ANALYSIS (MDF, PB, OSB)**

### Production, Import, Export, Consumption

<table>
<thead>
<tr>
<th>Year</th>
<th>MDF</th>
<th>OSB</th>
<th>PB</th>
<th>MDF</th>
<th>OSB</th>
<th>PB</th>
<th>MDF</th>
<th>OSB</th>
<th>PB</th>
<th>MDF</th>
<th>OSB</th>
<th>PB</th>
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<td>2015</td>
<td>96,690,587</td>
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<td>86,070,134</td>
<td>15,955,284</td>
<td>9,149,564</td>
<td>18,644,063</td>
<td>15,955,284</td>
<td>9,149,564</td>
<td>18,644,063</td>
<td>95,878,046</td>
<td>26,842,116</td>
<td>85,112,882</td>
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<td>2016</td>
<td>99,010,278</td>
<td>29,663,842</td>
<td>93,203,723</td>
<td>15,959,436</td>
<td>10,096,978</td>
<td>20,349,441</td>
<td>15,959,436</td>
<td>10,096,978</td>
<td>20,349,441</td>
<td>97,513,763</td>
<td>29,231,332</td>
<td>92,109,324</td>
</tr>
</tbody>
</table>

Source: FAOSTAT, m³
GLOBAL SECTOR ANALYSIS - 2016 CONSUMPTION (MDF, PB, OSB)

TOTAL: 218,854,419 m³

- MDF 97,513,763; 45%
- OSB 29,231,332; 13%
- PB 92,109,324; 42%

Source: FAOSTAT, m³
DISTRIBUTION CHART OF GLOBAL WOOD BASED PANEL PRODUCTION

- Asia: 49%
- Europe: 30%
- Americas: 19%
- Oceania: 1%
- Africa: 1%

KASTAMONU ENTEGRE 2,3%

TURKEY 4.2%

Source: FAO
GLOBAL PLAYER OF THE WOOD BASED PANEL INDUSTRY

TOP 10 PRODUCER COUNTRIES (MDF, OSB, PB)

Source: FAOSTAT, m3
WOOD BASED PANEL TURKISH MARKET ANALYSIS AND TRENDS
TURKISH MARKET ANALYSIS AND TRENDS
MDF, PB

CAGR 6.89%

Source: FAOSTAT
WOOD BASED PANEL PRODUCTION CAPACITY RANKING OF EUROPE

1. PARTICLE BOARD
   - Russia: 6.64
   - Germany: 5.52
   - Turkey: 5.10

2. MDF
   - Turkey: 5.14
   - Germany: 4.09

3. LAMINATED FLOORING
   - Germany: 272
   - Turkey: 110
   - Russia: 75

Source: FAOSTAT
GLOBAL WOOD BASED PANEL PRODUCTION CAPACITY RANKING

PARTICLE BOARD
Million m³ / year
1. CHINA 10,09
2. USA 7,43
3. RUSSIA 6,64
4. GERMANY 5,52
5. TURKEY 5,10

MDF
Million m³ / year
1. CHINA 56,82
2. TURKEY 5,14
3. BRAZIL 4,39
4. GERMANY 4,09
5. USA 3

LAMINATED FLOORING
Million m² / year
1. GERMANY 272
2. CHINA 222
3. TURKEY 110
4. RUSSIA 75
5. BRAZIL 6

Source: FAOSTAT
CONSUMPTION CHART OF TURKISH WOOD BASED PANEL INDUSTRY

- **MDF, 3,862,220**, 43%
- **PARTICLE BOARD, 3,597,859**, 40%
- **LAMINATE FLOORING, 1,024,856**, 12%
- **DOORSKIN, 49,451**, 1%
- **OSB, 361,166**, 4%

Total: 8,895,552 m³

Source: FAO, 2016
TURKISH WOODCHIP MARKET
AMOUNT OF WOOD RAW MATERIAL PURCHASED BY WBP SECTOR

Source: TURKSTATS, million ton

- 2015: 7 million ton
  - Import: 3.2 million ton
  - Domestic Purchase: 3.8 million ton
- 2016: 8.3 million ton
  - Import: 2.5 million ton
  - Domestic Purchase: 5.8 million ton
- 2017: 9.8 million ton
  - Import: 2.2 million ton
  - Domestic Purchase: 7.6 million ton
WOODCHIP & ROUNWDWOOD IMPORT TO TURKEY

Source: TURKSTATS, Undersecretariat of Treasury
HARD WOODCHIP IMPORTS TO TURKEY

Source: TURKSTATS, Undersecretariat of Treasury
SOFT WOODCHIP IMPORTS TO TURKEY

Source: TURKSTATS, Undersecretariat of Treasury
HAYAT HOLDING 1937

KASTAMONU ENTEGRE 1969
Wood Industry Group

HAYAT KIMYA 1986
Consumer Group
5 billion USD total assets
3 billion USD turnover
14,000 employees

13 Countries of Production
41 Companies
30 Factories
32 Brands
# HAYAT KIMYA CATEGORIES & BRANDS

<table>
<thead>
<tr>
<th>FABRIC&amp;HOME CARE</th>
<th>HYGIENE CARE</th>
<th>TISSUE&amp;TOWEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bingo</td>
<td>molfix</td>
<td>familia</td>
</tr>
<tr>
<td>Test</td>
<td>bebem</td>
<td>Papia</td>
</tr>
<tr>
<td>molped</td>
<td>Joly</td>
<td>FOCUS</td>
</tr>
<tr>
<td>evony</td>
<td></td>
<td>Teno</td>
</tr>
</tbody>
</table>

- **FABRIC&HOME CARE**
  - Washing Cleaner
  - Dishwashing Detergent
  - Surface Cleaner

- **HYGIENE CARE**
  - Baby Diaper
  - Wet Towel
  - Hygienic Ped
  - Adult Diaper
  - Patient Protective Cover

- **TISSUE&TOWEL**
  - Toilet Tissue
  - Kitchen Towel
  - Napkin
  - Handkerchief
  - Facial Tissue
  - Wet Towel
KASTAMONU ENTEGRE

Kastamonu Entegre | Kastamonu Bulgaria | Kastamonu Romania | Natron Hayat | Kastamonu Integrated | Kastamonu USA
Turkey | Bulgaria | Romania | Bosnia Herzegovina | Russian Federation – Tatarstan | United States of America
KASTAMONU ENTEGRE IN FIGURES

7th
in the Wood Based Panel Sector in the World

4th
in the Wood Based Panel Sector in Europe

1st
in the Wood Based Panel Sector in Turkey

The consolidated sales revenue (Billion USD)
1.3

Turnover realised abroad (Million USD)
550

Export Countries
100
<table>
<thead>
<tr>
<th>Raw and Melamine Faced Particle Board</th>
<th>Raw and Melamine Faced MDF</th>
<th>Laminate Flooring</th>
<th>Doorskin</th>
<th>Worktop</th>
</tr>
</thead>
</table>

**PRODUCTS FOR FURNITURE INDUSTRY, CONSTRUCTION & DECORATION**

**ANNUAL PRODUCTION CAPACITY**
- 5 million m³ Wood Based Panel
- 70 million m² Laminate Flooring

**DAILY SALES**
- X 600 / day
- 17,500 m³ / day
WE PRODUCE EVERY DAY

Laminate Flooring
Panels for Furniture
Interior Door Panels

FOR 3,000 HOUSES
WORLDWIDE RANKING WOOD BASED PANEL (MDF+PB+OSB)

Kronospan: 23.1
Arauco: 9.9
Norbord: 8.3
Egger: 7.9
Swiss Krono: 5.6
Georgia Pacific: 5.6
Kastamonu Entegr: 5.0
Duralex: 4.8
Louisiana Pacific: 4.6
Sonae Arauco: 4.1
Pfleiderer: 3.9
Weyerhaeuser: 3.2
Sonae: 3.1
Finsa: 2.8
Yıldız Entegr: 2.5

Source: WBPI
EUROPEAN RANKING WOOD BASED PANEL (MDF+PB+OSB)

Kronospan 22.3
Egger 7.4
Swiss Krono 5.6
Kastamonu Entegre 5.0
Pfleiderer 3.9
Sonae Arauco 3.5
Finsa 2.8
Yıldız Entegre 2.5
Swedwood 2.5
Mohawk 2.3
Saviola 1.9
Sonae 1.9
Arauco 1.9
Norbord 1.6
Fantoni 1.5

Source: WBPI
WORLDWIDE RANKING (MDF+PARTICLE BOARD)

<table>
<thead>
<tr>
<th>Brand</th>
<th>Million m³/year</th>
</tr>
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<tbody>
<tr>
<td>Kronospan</td>
<td>14.6</td>
</tr>
<tr>
<td>Arauco</td>
<td>7.5</td>
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<tr>
<td>Egger</td>
<td>6.3</td>
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<tr>
<td>Kastamonu Entegre</td>
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<tr>
<td>Duratek</td>
<td>4.1</td>
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<tr>
<td>Swiss Krono</td>
<td>3.8</td>
</tr>
<tr>
<td>Massa</td>
<td>3.5</td>
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<tr>
<td>Pfeiferer</td>
<td>3.3</td>
</tr>
<tr>
<td>Finsa</td>
<td>2.9</td>
</tr>
<tr>
<td>Sonae</td>
<td>2.8</td>
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<tr>
<td>Yıldız Entegre</td>
<td>2.5</td>
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Nr. 4
EUROPEAN RANKING (MDF+PARTICLE BOARD)
**WORLDWIDE RANKING (MDF)**

<table>
<thead>
<tr>
<th>Rank</th>
<th>Company</th>
<th>Production Capacity (million m³/year)</th>
</tr>
</thead>
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<tr>
<td>1</td>
<td>Kronospan</td>
<td>4.8</td>
</tr>
<tr>
<td>2</td>
<td>Arauco</td>
<td>4.3</td>
</tr>
<tr>
<td>3</td>
<td>Kastamonu Entegre</td>
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<tr>
<td>4</td>
<td>Duratex-Satipel</td>
<td>2.3</td>
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<tr>
<td>5</td>
<td>Yildiz Entegre</td>
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<tr>
<td>6</td>
<td>Masica Sill</td>
<td>1.5</td>
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<tr>
<td>7</td>
<td>Swiss Krono</td>
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<td>Finsa</td>
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<tr>
<td>10</td>
<td>Soina</td>
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</tbody>
</table>

*Note: The chart shows the production capacity of different companies in the wood-based panel industry worldwide.*
EUROPEAN RANKING (MDF)

<table>
<thead>
<tr>
<th>Rank</th>
<th>Company</th>
<th>Production (million m³/year)</th>
</tr>
</thead>
<tbody>
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<td>Egger</td>
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<td></td>
<td>Fantoni</td>
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<td>Saviola</td>
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<tr>
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Nr. 2
WORLDWIDE RANKING (PARTICLE BOARD)

<table>
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<th>Rank</th>
<th>Company</th>
<th>Volume (million m³/year)</th>
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<tbody>
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<tr>
<td>2</td>
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<td>3</td>
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Nr. 4
EUROPEAN RANKING (PARTICLE BOARD)

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<tr>
<th>Company</th>
<th>Million m³/year</th>
<th>Pάρτικλ Μαννέρ</th>
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</thead>
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<tr>
<td>Kronospan</td>
<td>9.8</td>
<td>5.2</td>
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<td>Egger</td>
<td>2.6</td>
<td>2.5</td>
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<tr>
<td>Swiss Krono</td>
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<td>2.0</td>
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<td>Finsa</td>
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<td>0.9</td>
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<tr>
<td>Sonae</td>
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<td>0.6</td>
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<td>Yıldız Entegre</td>
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<td>Saviola</td>
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<tr>
<td>Fantoni</td>
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Nr. 3
WORLDWIDE RANKING (DOORSKIN)

MASONITE: 80
JELD-WEN: 75
KASTAMONU ENTEGRE: 19.5
TEVERPAI - TR: 9
YILDIZ ENTEGRE - TR: 9
FUDUN - CHINA: 7
HUME - AUSTRALIA: 6
HUBONG - CHINA: 5
YANACHAI - THAILAND: 3
TONGYUAN - CHINA: 1

Million Pieces Per Year

Nr. 3
EUROPEAN RANKING (DOORSKIN)

<table>
<thead>
<tr>
<th>Company</th>
<th>Million Pieces Per Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Masonite</td>
<td>20</td>
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<tr>
<td>Kastamonu Entegre</td>
<td>19.5</td>
</tr>
<tr>
<td>Jeld-Wen</td>
<td>9</td>
</tr>
<tr>
<td>Teverpan - TR</td>
<td>9</td>
</tr>
<tr>
<td>Yildiz Entegre - TR</td>
<td>9</td>
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</tbody>
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Nr. 2
WORLDWIDE RANKING (LAMINATED FLOORING)

KRONOSPAN: 160
SWISS KRONO: 130
CLASSEN: 70
KASTAMONU ENTEGRE: 65
EGGER: 60
MOHAWK/UNILIN: 60
EUROPEAN RANKING (LAMINATED FLOORING)

- **KRONOSPAN**: 130
- **SWISS KRONO**: 110
- **CLASSEN**: 70
- **KASTAMONU ENTEGRE**: 65
- **EGGER**: 60
- **MOHAWK/UNILIN**: 30

**Nr. 4**
THANK YOU