European Pulpwood Import Markets
February 2016, Vietnam
1. European pulpwood production

European pulp production

~31 Mill tAD/yr

15% of world’s pulp production

Source: WRQ & Generandi. 2016
2. European woodchip trade (i)

A. 2016* softwood woodchip trade

Imports are mainly from Russia and European countries

*Until October

---

**VOLUME OF SOFTWOOD WOODCHIPS (BDMT)**

**IMPORTING COUNTRIES**

<table>
<thead>
<tr>
<th></th>
<th>Germany</th>
<th>France</th>
<th>Finland</th>
<th>Sweden</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sweden</td>
<td>35.912</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>35.912</td>
</tr>
<tr>
<td>Netherlands</td>
<td>38.089</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>38.089</td>
</tr>
<tr>
<td>France</td>
<td>45.629</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>45.629</td>
</tr>
<tr>
<td>Finland</td>
<td>-</td>
<td>-</td>
<td>99.629</td>
<td>-</td>
<td>99.629</td>
</tr>
<tr>
<td>Estonia</td>
<td>-</td>
<td>-</td>
<td>104.136</td>
<td>108.176</td>
<td>212.312</td>
</tr>
<tr>
<td>Spain</td>
<td>-</td>
<td>121.421</td>
<td>-</td>
<td>-</td>
<td>121.421</td>
</tr>
<tr>
<td>Norway</td>
<td>-</td>
<td>-</td>
<td>2.050</td>
<td>249.150</td>
<td>251.200</td>
</tr>
<tr>
<td>Latvia</td>
<td>-</td>
<td>-</td>
<td>47.991</td>
<td>401.237</td>
<td>449.227</td>
</tr>
<tr>
<td>Russia</td>
<td>-</td>
<td>-</td>
<td>556.046</td>
<td>21.788</td>
<td>577.834</td>
</tr>
<tr>
<td>Other countries</td>
<td>55.587</td>
<td>44.936</td>
<td>-</td>
<td>-</td>
<td>100.524</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>175.217</td>
<td>166.358</td>
<td>710.223</td>
<td>879.979</td>
<td>1.931.777</td>
</tr>
</tbody>
</table>

---

**Main EU importing countries**

**Exporting countries**

- Sweden (31%)
- Netherlands (12%)
- France (5%)
- Finland (6%)
- Estonia (5%)
- Norway (4%)
- Latvia (7%)
- Russia (14%)
- Other countries (25%)
2. European woodchip trade (ii)

B. 2016* hardwood woodchip trade (i)

*Until October

Total 2016* imports: 908.008 BDMT

VOLUME OF HARDWOOD WOODCHIPS (BDMT)

<table>
<thead>
<tr>
<th>IMPORTING COUNTRIES</th>
<th>Sweden</th>
<th>France</th>
<th>Finland</th>
<th>Germany</th>
<th>Portugal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spain</td>
<td>-</td>
<td>1.858</td>
<td>-</td>
<td>-</td>
<td>11.955</td>
</tr>
<tr>
<td>Poland</td>
<td>-</td>
<td>120</td>
<td>-</td>
<td>18.533</td>
<td>-</td>
</tr>
<tr>
<td>Germany</td>
<td>-</td>
<td>33.461</td>
<td>-</td>
<td>-</td>
<td>65</td>
</tr>
<tr>
<td>Belgium</td>
<td>-</td>
<td>13.987</td>
<td>-</td>
<td>29.860</td>
<td>-</td>
</tr>
<tr>
<td>Netherlands</td>
<td>-</td>
<td>346</td>
<td>-</td>
<td>62.666</td>
<td>-</td>
</tr>
<tr>
<td>Russia</td>
<td>-</td>
<td>-</td>
<td>107.121</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Brazil</td>
<td>-</td>
<td>49.612</td>
<td>-</td>
<td>-</td>
<td>144.779</td>
</tr>
<tr>
<td>Uruguay</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>396.674</td>
</tr>
<tr>
<td>Other countries</td>
<td>10.849</td>
<td>3.013</td>
<td>-</td>
<td>20.261</td>
<td>-</td>
</tr>
</tbody>
</table>
| **TOTAL**           | 13.698 | 102.397| 107.121 | 131.320 | 553.472

VOLUME OF HARDWOOD WOODCHIPS (BDMT)

<table>
<thead>
<tr>
<th>EXPORTING COUNTRIES</th>
<th>Spain</th>
<th>Poland</th>
<th>Germany</th>
<th>Belgium</th>
<th>Netherlands</th>
<th>Russia</th>
<th>Brazil</th>
<th>Uruguay</th>
<th>Other countries</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>TOTAL</strong></td>
<td>13.698</td>
<td>102.397</td>
<td>107.121</td>
<td>131.320</td>
<td>553.472</td>
<td>109.970</td>
<td>194.391</td>
<td>396.674</td>
<td>34.123</td>
</tr>
</tbody>
</table>
2. European woodchip trade (iv)

C. Demand in Europe (i)

European hardwood chips imports have been historically dominated by the Iberian countries. However, 2015 brought a sharp change. Huelva’s closure in Spain reduced imports dramatically.

HW chips imports trends in the last 5 years:
- Continuous increase in Portugal’s imports.
- Gradual decrease in Scandinavian countries imports.
- Spain is no longer a potential importer.

Source: National Custom Offices (Fin, Swe, Ger, Port, Fr & Spain)
3. Main importing countries (i)

B. Scandinavia (i)

FINLAND is one of the major pulp producers in Europe producing 10.2 Mill TAD/yr which equals to a >36 Mill m³ u.b./yr of woodchip consumption.

However, the level of its imports are far from this figure (max. 0.7 Mill in 2008). Since 2012, when Russia entered the WTO, woodchips are almost exclusively sourced from this country.

Finland has a very strong local supply and imports represent less than 1% of its total consumption.
3. Main importing countries (ii)

B. Scandinavia (ii)

SWEDEN is the major pulp producer of Europe with 11.6 Mill TAD/yr which equals to a ≈ 40 Mill m³ u.b./yr of woodchip consumption. However its imports are far from this with <0.1 GMT since 2013.

Sweden imports of HD. Chips

Imports have been decreasing since 2009, and at the same time there has been a great change in importing partners.

Source: National Statistics Institute of Sweden
3. Main importing countries (iii)

A. Germany (i)

- GR has been increasing its hardwood chip imports since 2008.
- There has been a reduction of 30% in the prices since 2014. The average price indicates a probable biomass destination.

Source: National Statistics Institute of Germany
3. Main importing countries (iv)

C. Iberia (i)

- SPAIN

**Consumption mix: 2008-Jan/Oct 2016**

Source: ASPAPEL, Generandi & The Official Statistics from the Spanish Customs Chamber.
3. Main importing countries (v)

C. Iberia (ii)

- PORTUGAL

*Eucalyptus pulpwood Chips imports to Portugal*

Source: The National Statistics Institute (INE) of Portugal
4. Mid term market drivers (i)

- US Dollar’s strength

Currency evolution Jan'16 base

<table>
<thead>
<tr>
<th>Month</th>
<th>Base</th>
<th>80%</th>
<th>85%</th>
<th>90%</th>
<th>95%</th>
<th>100%</th>
<th>105%</th>
<th>110%</th>
<th>115%</th>
<th>120%</th>
<th>125%</th>
<th>130%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jan</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Feb</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>March</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>April</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>May</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jun</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jul</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aug</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sep</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oct</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nov</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dec</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
4. Mid term market drivers (ii)

- **Uruguay’s exporting capacity**

UPM Kymmene is planning to open a new pulp mill in Uruguay by 2020, that would consume locally sourced wood. This could affect Portugal’s pulpwood imports, as woodchips are being sourced mainly from this country.

Where will Portugal’s sustainable pulpwood be sourced from?
4. Mid term market drivers (iii)

- **Turkey’s softwood imports**

There is a global trend of limiting the trade of softwood chips and logs from North America. Currently the EU requires thermal treatment for importing this material.

Could this trend affect Turkey?

Where would Turkey’s sustainable softwood chips be sourced from?
4. Mid term market drivers (iv)

- **Mediterranean softwood biomass market**: Pine wood nematode

The pine wood nematode is very extended in Portugal and already present in some regions in Spain and could promptly affect French territory.

Under this circumstance, biomass exports from Southern to Northern Europe and the intra-Mediterranean trade could be affected due to possible phytosanitary restrictions.

Source: Le Figaro
4. Mid term market drivers (iv)

- **Mediterranean softwood biomass market**: Pine cochineal

The pine cochineal is a specific mealybug (cochineal) of *Pinus pinaster* to which a strong pine mortality in 1957 in France was attributed. There have already been reported damages in northern Italy, in 216 hectares and Spain (Valencia).

Both organisms, nematode and cochineal, represent an **important phytosanitary risk** for Mediterranean biomass trade.
4. *Mid term market drivers (v)*

- **Trend in woodchip projects**

**Biomass projects**

- **Woodchips**
- **Pellets**
- **TOTAL TM**

![Graph showing biomass projects from 2013 to 2016](image-url)
4. Mid term market drivers (v)

- Biomass. 2020 Scenario (i)

(>50 MW) BIOMASS PLANTS 2020

Woodchip consumption 2020

- Running 2016: 47%
- Projects: 53%

Total: ≈ 12 Mt/yr

Woodchips projects (>50MW) 2020

- DENMARK: 29%
- UK: 24%
- IRELAND: 18%
- NETHERLANDS: 16%
- FRANCE: 13%

Total Projects: ≈ 6 Mt/yr

Source: Generandi
4. Mid term market drivers (vi)

Eurozone Economic Sentiment Chart

Note: The Economic Sentiment Indicator (ESI) is based on surveys addressed to the manufacturing, services, retail trade and construction sectors, as well as to consumers. Values above 100 indicate an above-average economic sentiment, whereas values below 100 indicate a below-average position.

Source: European Commission
4. Mid term market drivers (vi)

Local pulp woodchip price trend

€/BDMT

0% 20% 40% 60% 80% 100% 120% 140%

1Q 2Q 3Q 4Q 1Q 2Q 3Q 4Q 1Q 2Q 3Q 4Q 1Q 2Q 3Q 4Q 1Q 2Q 3Q 4Q


Sweden  Finland  Germany  France  Portugal  Spain
4. Mid term market drivers (vi)

- *Euca plantations: lower local production*
  - Not motivated forest owner
  - Immature harvesting
  - mycosphaerella & gonipterus
  - globulus/nitens mix

- *Energy crop*
  - Spanish cut back
  - Marginal developments in Southern France and Sicily
  - Eucalyptus benthamii trials
THANK YOU FOR YOUR ATTENTION!