ENVIRONMENTAL COMMITMENT
WE BELIEVE THAT OUR RESPONSIBILITY IS NOT JUST FOR PAPER
THE FOREST
CERTIFICATIONS
PAPER
RECYCLING PROCESS

AT THE HEART OF NAVIGATOR’S BRAND PROMISE IS A COMMITMENT TO SUSTAINABILITY.
THE FOREST

A responsibly managed forest can maintain or even increase the amount of wood available, ensuring continuous supply to the pulp and paper industry.

THE PAPER INDUSTRY ANNUALLY CONSUMES WOOD PRODUCED BY LESS THAN 0.2% OF THE WORLD FOREST AREA.

Worldwide wood consumption by end-user

- FUEL WOOD 53%
- LOGS FOR SAW MILL 12%
- PULPWOOD FOR WOODPANEL INDUSTRY 4%
- PULPBOARD FOR PAPER AND BOARD 5%
- OTHER INDUSTRIAL USES 25%

Source: FAO 2010 / grupo Portucel Soporcel

Source: FAO 2014 / grupo Portucel Soporcel
**Forest Area**
During the last 20 years Europe's forest area increased by 17 million hectares, equivalent to an annual growth rate of 1.5 million football fields.

**Carbon Storage**
By the end of 2009, forests managed by GPS accounted for carbon storage equivalent to emissions generated by 1.5 million cars driving around the world.

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**FOREST PLAYS AN IMPORTANT SOCIAL ROLE IN PORTUGAL. THE COUNTRY HAS THE HIGHEST SHARE IN EUROPE OF PRIVATELY OWNED FOREST AND INDUSTRY ONLY HAS A MINOR SHARE OF THAT.**

**Portuguese private forests**
Portugal has more than 400,000 private forest owners, 85% of them owning very small areas (< 3 ha). The smaller scale properties are mostly situated in the area with the highest concentration of *Eucalyptus globulus* (North Coastal area).

<table>
<thead>
<tr>
<th>AVERAGE DIMENSION OF FOREST PROPERTY (ha)</th>
<th>NUMBER OF PRIVATE OWNERS</th>
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<tbody>
<tr>
<td>&lt; 3 ha</td>
<td>347,277 (85%)</td>
</tr>
<tr>
<td>3 – 10 ha</td>
<td>34,596</td>
</tr>
<tr>
<td>11 – 50 ha</td>
<td>20,178</td>
</tr>
<tr>
<td>51 – 100 ha</td>
<td>2,989</td>
</tr>
<tr>
<td>101 – 500 ha</td>
<td>373</td>
</tr>
<tr>
<td>501 – 10,000 ha</td>
<td>747</td>
</tr>
</tbody>
</table>

*Source: DGRF / grupo Portucel Soporcel*
grupo Portucel Soporcel's forest management model is certified, guaranteeing the origin of its raw material.

GRUPO PORTUCEL SOPORCEL’S PRODUCTS AWARDED WITH EU ECOLABEL LICENSE MEET THE ECOLOGICAL CRITERIA FOR COPYING AND GRAPHIC PAPER AND ARE CERTIFIED ACCORDING TO FSC® AND PEFC CHAIN OF CUSTODY.

OUR MAIN CERTIFICATION SYSTEMS ARE:
FSC | FOREST STEWARDSHIP COUNCIL®,
PEFC | PROGRAMME FOR THE ENDORSEMENT OF FOREST CERTIFICATION SCHEMES.
Navigator is a truly ecological product, biodegradable, recyclable and made from a natural renewable resource planted specifically for this use – *Eucalyptus globulus*.

**Eucalyptus Globulus**

*Eucalyptus globulus* has a higher number of fibres per weight unit giving better porosity, opacity and formation of the paper. It enables superior paper machine performance levels and enhanced printing quality. Typically, *Eucalyptus globulus* trees are cut after 12 years. Maintaining a responsible forest management model means that the net amount of wood is kept every year. In fact, that quantity increases, since more trees are planted than those used for pulpmaking.
Responsible Forest Management
Management that retains the potential to fulfil, now and in the future, the forest’s ecological, economic and social functions at local, national and global levels.

Adequate Plantation Design: **Eucalyptus globulus**
Plantations of different ages co-exist with other vegetation in a mosaic landscape.

**Improvement Programme**
Our *Eucalyptus globulus* Improvement Programme seeks to select the best trees for wood productivity and fibre quality, diseases and pest resistance, soil/weather adaptability and to develop new forest management techniques. As a result, our nursery is supplied with carefully selected trees that increase the productivity of our forests as well pulp and paper production.
To ensure continuity of global paper recycling we must continue sourcing paper from trees. The recycling process does not remove the need to use virgin fibres.

**Recycling fibre**
- Cellulose fibre cannot be recycled indefinitely
- Recycling decreases wood fibre quality
- There are increasing levels of impurities (eg. stickies) in recovered paper waste
- Ratio of recovered paper into recycled paper can be as low as 2 to 1

A HIGHLY EFFICIENT RECOVERING CYCLE MAKES THE INCORPORATION OF RECOVERED PAPER MORE DIFFICULT.
RECYCLING DECREASES WOOD FIBRE PAPERMAKING QUALITY, NAMELY FIBRE CELL WALL THICKNESS, WHICH DECREASES PAPER PROPERTIES LIKE VOLUME, PERFORMANCE, OPACITY AND OTHER CHARACTERISTICS. **IT IS VERY IMPORTANT TO REFRESH THE RECYCLING CASCADE WITH FIBRES THAT BETTER SUPPORT THE RECYCLING PROCESS.**

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**Source:** Characteristics of pulp fibre with high recycling performance, Okayama Takayuki, Japan

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**Wood fibres (transversal cut scheme)**

- **EUCALYPTUS GLOBULUS**
  - Thick cell wall

- **OTHER SPECIES**
  - By thinner cell wall

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**Recycling rate**

Paper is the most recycled product in Europe, and Europe is the global champion in paper recycling with a rate of 72.2% in 2008, which corresponds to 89% of the theoretical maximum rate.

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**Source:** CEPI
Sustainability Logic
Recycling should be done in cascade: starting with products with more demanding characteristics and longer life cycles into products progressively with less demanding characteristics and shorter life cycles. By recycling we are avoiding the early release of the carbon content of paper. Whenever recycling is not possible, paper can be used to produce “green” energy, thus avoiding the use of fossil fuels.

PAPER & BOARD CONSUMPTION (EUROPE)

67% of the European paper and board consumption is packaging, newsprint, tissue and other paper & board. These products have less demanding applications and characteristics, shorter life cycles, and can be made with the use of high percentages of recovered paper. Office paper and other graphic paper are a highly valuable resource for recycling and upstream contributors for sustainable forests.

Source: CEPI 2013

* includes Pre-print & BFL (Folio / Reels)
** includes other industrial applications
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Produced in Portugal
by grupo Portucel Soporcel