Now we are THE NAVIGATOR COMPANY ON A SUSTAINABLE COURSE

In 1957 we were world pioneers in producing and marketing bleached *Eucalyptus globulus* kraft pulp. This was the start of a journey which was to transform a Portuguese company into one of the world’s leading manufacturers of bleached eucalyptus pulp (BEKP) and uncoated woodfree paper (UWF).

The Portucel Soporcel group is now The Navigator Company and we look forward to a future where paper is just the beginning. We are part of the lives of millions of people in 123 countries around the world. We are one of Portugal’s three largest exporters, with our industrial innovation and the excellence of our products and brands.

We manage Europe’s largest nurseries for forestry plants and 120 thousand hectares of forests, each year producing more than 12 million plants certified to the highest standards. We are Portugal’s leading producer of electrical power from biomass. We have a forestry management system certified by the most widely respected international organisations.

Our corporate best practices reflect our commitment to making a growing contribution to the sustainability of the planet.

In the year in which we have launched our new corporate brand, we are pleased to incorporate it in our 2014/2015 Sustainability Report, covering two crucial years of transition which have allowed us to continue writing new paths, confident that these will be as sustainable as our manufacturing and as ambitious as our vision of the future.

Because we are on a sustainable course, to a destination where paper is just the beginning.
### MAIN PERFORMANCE INDICATORS

#### BUSINESS

<table>
<thead>
<tr>
<th></th>
<th>2014</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Turnover, billion €</td>
<td>15</td>
<td>16</td>
</tr>
<tr>
<td>EBITDA / sales, %</td>
<td>21.3</td>
<td>24.0</td>
</tr>
<tr>
<td>Investment, million €</td>
<td>50.3</td>
<td>148.5</td>
</tr>
<tr>
<td>Customer Satisfaction Index, Paper UWF (biannual), %</td>
<td>91</td>
<td></td>
</tr>
<tr>
<td>Annual production capacity, Mozambique nurseries, million plants #</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>Workforce new business, #</td>
<td>83</td>
<td>228</td>
</tr>
<tr>
<td>Torua (Vila Velha Ródão)</td>
<td>199</td>
<td></td>
</tr>
<tr>
<td>Colombo Energy (USA)</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

#### SUPPLY CHAIN

<table>
<thead>
<tr>
<th></th>
<th>2014</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sustainability assessment relevant suppliers, %</td>
<td>68</td>
<td></td>
</tr>
<tr>
<td>Portuguese suppliers, % share of procurement spending</td>
<td>75</td>
<td>74</td>
</tr>
<tr>
<td>Supplies certified wood, %</td>
<td>46</td>
<td>42</td>
</tr>
</tbody>
</table>

#### FORESTS

<table>
<thead>
<tr>
<th></th>
<th>2014</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Area certified under Group management, %</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

#### INDUSTRIAL OPERATIONS

<table>
<thead>
<tr>
<th></th>
<th>2014</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Energy intensity, GJ/tonne</td>
<td>12.8</td>
<td>12.0</td>
</tr>
<tr>
<td>Renewable materials consumed, %</td>
<td>90.0</td>
<td>89.6</td>
</tr>
<tr>
<td>Water use, m³/tonne product</td>
<td>20.1</td>
<td>20.9</td>
</tr>
<tr>
<td>CO₂ emissions, t CO₂/tonne product</td>
<td>0.24</td>
<td>0.25</td>
</tr>
</tbody>
</table>

#### PEOPLE

<table>
<thead>
<tr>
<th></th>
<th>2014</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employees, #</td>
<td>2,240</td>
<td>2,279</td>
</tr>
<tr>
<td>Workforce age, % aged under 50 years</td>
<td>60.7</td>
<td>61.5</td>
</tr>
<tr>
<td>Absenteeism</td>
<td>3.5</td>
<td>3.2</td>
</tr>
<tr>
<td>Severity Index</td>
<td>987</td>
<td>771</td>
</tr>
<tr>
<td>Average employee training hours, #</td>
<td>49.2</td>
<td>57.5</td>
</tr>
</tbody>
</table>

#### STAKEHOLDERS

<table>
<thead>
<tr>
<th></th>
<th>2014</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investment in the community, million €</td>
<td>1</td>
<td>1.7</td>
</tr>
<tr>
<td>Participants Sustainability Forum, #</td>
<td>-</td>
<td>5</td>
</tr>
<tr>
<td>Visitors to Portugal Group, #</td>
<td>1,642</td>
<td>1,668</td>
</tr>
</tbody>
</table>

**Note:** All the indicators in this table refer to the production and sale of pulp and paper, apart from those under the heading Business, which also include the new business areas: tissue paper, forestry in Mozambique and pellets in the United States. When new business areas are included, the workforce totalled 2,660 employees in 2015.
ABOUT THIS REPORT
1.1 REPORT PROFILE

The Portucel Group is delighted to publish its fifth bi-annual Sustainability Report. This report refers to the period 2014/2015 and seeks to explain the sustainable way in which the Group has conducted its business. Information is provided on the most relevant and significant aspects of the Group’s business, environmental and social performance over the past two years. This report was drawn up in line with the Global Reporting Initiative Guidelines, version G4, “in accordance – comprehensive” option, and contains a content index. The information provided has been validated by PricewaterhouseCoopers & Associados, S.R.O.C., Lda., by an external audit, that can be consulted in annex.

The report now published encompasses all the Group’s companies and activities which contribute to pulp and paper production and sales, although the financial indicators, for reasons relating to consolidation, include all the Group’s business operations. The scope of this report does not include business activities geared exclusively to power generation, as the document is focussed on the Group’s core business in the period of report, pulp and paper production, and therefore takes in only the cogeneration facilities associated with this activity.

Essential information is provided on the Portucel Group’s new operations (tissue paper business, forestry in Mozambique and pellets in the United States), and on their integration into the Group. The manufacture and sale of tissue paper is currently being fully integrated in the Group and this process will be consolidated in 2016. The Group’s operations in Mozambique are at the investment stage with trial plantations which have yet to reach the operational phase. The new pellets facility being built in the US is due to start up in 2016.

The report is available in paper and electronic format, at the Portucel Group’s institutional website: www.thenavigatorcompany.com.

The annexes on Methodological Notes and the GRI Content Index, that contain the information about Human Resources, are included only in the online version.

1.2 RELEVANT TOPICS

The material aspects to the Portucel Group in the field of sustainability, to be reported on here, were identified by listening to the main stakeholder groups and then comparing these findings with the senior management perspective in a materiality analysis.

All high and medium priority aspects are included in the report. In addition to these, the Group selected two aspects which, although not material, were included in the report: “Compliance and complaints” and “Water Eﬄuents Management”.

In line with Group strategy, these aspects are addressed in operational areas: Business, Supply Chain, Forestry, Industrial Operations, People and Stakeholders. Information is given on aims, plans and projects for each aspect classified as material, and on the Group’s achievements.

1.3 TELL US YOUR OPINION

Your opinion is important in helping the Group to improve its sustainability management and to draft its reports. A questionnaire has been designed for your feedback about this report, and we would be delighted to receive your contribution. You can find the questionnaire at: www.thenavigatorcompany.com.

For any further information about this report, or for any related enquiries, please contact:

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José Ataíde
Phone: 233 900 200 | Fax: 233 940 502
E-mail: jose.ataide@thenavigatorcompany.com
This Sustainability Report, covering the period 2014/2015, offers further proof of the Portucel Group’s sense of responsibility and its genuine commitment to pursuing sustainability. Without ever losing sight of its business objectives, the Group prides itself on its transparency and responsibility, and on the conviction, dedication and rigour it puts into caring for its social and natural environment.

The reporting period now ended was a time of consolidation and growth, and also of change, renewal and international expansion.

Consolidation was achieved in the Group’s traditional businesses, with growth in total sales and own brands, as it expanded and diversified into new markets and increased its output of pulp and paper, cutting costs and improving efficiency.

Growth can be seen at the Cacia Industrial Complex, where capacity was increased by 60,000 t/year. Growth and international expansion were also to be seen in the United States, with working starting on the construction of a pellets factory, and in Mozambique, where significant progress was made in plantations and in producing saplings at the new world-class local nurseries, to supply these plantations.

Change and renewal could also be seen in much of the Group’s structure, as corporate functions were strengthened, especially in the field of sustainability, with the creation of the Sustainability Department and inauguration of the Sustainability Forum, a new arena for dialogue and cooperation with the Group’s stakeholders.

The Social Development Programme in Mozambique is a prime example of the Group’s social concerns. Up to 2015, this programme engaged directly with 4,600 families in six districts of Zambézia and Manica provinces, complementing the involvement of 15,000 individuals in the public consultation process conducted for the project’s Environmental and Social Impact Assessment.

We took on new voluntary responsibilities during the period in the WBCSD – World Business Council for Sustainable Development, as co-chair of the Forest Solutions Group and we remained a committed board member of its local branch, BCSD Portugal, which recently published a case-study featuring the Group’s involvement in the low carbon economy, an area to which we have devoted special attention.

We carefully followed international developments in the field of sustainability and concerns about recognising the importance of climate change which, in our view, restores forestry industries to their rightful place: progress has been made towards a legally binding (World) Convention on Forests and the European Union has adopted the Circular Economy Principle, for which paper, as a recyclable product from a renewable source, provides the perfect paradigm. The long-awaited Paris Conference produced an international cross-border commitment to decarbonising the economy and reached a consensus in calling for a new era of biotechnology, where paper will be increasingly important.

The Sustainability Report is therefore the living proof that, in its convictions and its actions, the Portucel Group intends to continue contributing to making Sustainable Development and Social Responsibility truly achievable in Portugal and around the world.

Pedro Queiroz Pereira
Chairman

Diogo da Silveira
CEO
Environmental issues relating to industrial operations were a priority concern for the Board, which closely monitored the environmental performance of the Group’s industrial establishments, the flow of new European environmental regulations and the process of adapting the plants to the new requirements.

In the field of atmospheric pollution, special attention should be drawn to the progress made at the Cacia Industrial Complex, where significant environmental investment was made alongside the expansion of production capacity, resulting in appreciable improvements to the perception of odours in the vicinity.

The new Strategic Plan for the Environment, outlining the Portucel Group’s main environmental improvements and investments over the next 10 years, was presented and discussed in detail.

As in previous periods, the Board paid keen attention to energy issues, monitoring progress in reducing the use of fossil fuels, increased use of renewables and reduction of the Group’s carbon footprint.

In addition to the scientific and technological issues already mentioned, the Group also addressed communication issues and their importance to society’s perception of the industry and the Group, for a less superficial and more accurate understanding of its position on the environment and its contribution to Portugal’s economic, social and technological development, and that of the regions where it operates.

Lastly, the Environmental Board would like to draw attention to the efforts and progress made in publishing papers and presentations on the issues within its brief. Many of these were collected and published in the Cadernos de Sustentabilidade (Sustainability notebooks), which marked significant progress in the dissemination and consolidation of the Portucel Group’s practices and the impressive improvements it has made to its environment performance.
3 MAIN DEVELOPMENTS
Launch of the New Cycle, a new cycle of strategic development for the Portucel Group over the next decade (2015/2025); Business diversification – announcement of acquisition of AMS-Star Paper, S.A., a tissue paper manufacturer; Agreement under which the World Bank, acting through International Finance Corporation (IFC), has taken up a stake in Portucel Moçambique, the company undertaking an integrated forestry, paper pulp and energy project in Mozambique; Maintenance of FSC® certification (license CC010852) for the Group’s forestry holdings; Funding of the Paper Museum: a project to educate the public about the sustainable paper cycle; Launch of two new products in the Navigator range: Navigator Home Pack and Navigator On the Go; Design and launch of the new WebJet Pro product for high speed inkjet printing; Design of new processes and products in the New Cellulose Materials R&D Project; Design of new processes and products in the BioBlocks R&D Project.

- Turnover rises to 1.6 billion euros, the highest figure ever, with record sales in 37 countries;
- Navigator achieves growth of 2.4% and its highest ever sales;
- Official opening of Luá Nurseries in Mozambique;
- Start of construction work on pellets facility in US;
- Expansion of the Cacia Industrial Complex, with optimised environmental performance;
- New tissue paper production line at the Vila Velha de Ródão plant;
- Renewal of PEFC (PEFC/13-23-001) certification, under the new criteria;
- Drafting of the Group’s Strategic Environmental Plan;
- Launch of a programme for disseminating the Portucel Group’s Mission, Vision and Values, as part of the New Cycle;
- Creation of the Sustainability Department;
- 1st Session of the Sustainability Forum – a platform for dialogue and cooperation with stakeholders relevant to the Group;
- “Give the Forest a Hand” – social responsibility campaign to raise awareness of forestry conservation, involving more schools and employees’ children;
- World Business Council for Sustainable Development (WSCSD) Portucel Group takes a higher profile role as CEO is appointed co-chair of the Forest Solutions Group (FSG), which works to promote global solutions and good practices in the international forestry products industry;
- Design and launch of a new product in the Navigator range: Navigator Advanced (75 g/m², incorporating 50% recycled paper from pre- and post-consumer waste).
The Portucel Group is one of the largest multinational groups based in Portugal. It is Portugal’s third leading exporter, and the exporter generating the highest level of national value added. The Group accounts for approximately 1% of Portugal’s GDP, around 3% of the country’s total exports of goods, close to 8% of all containerized cargo and 7% of all containerized and conventional cargo exported through Portuguese ports.

In 2015, the Group set a new all-time record for paper output, and increased its turnover by 5.6% to more than €1.6 billion. Record sales were recorded in 37 countries (including Spain, United Kingdom, Egypt, Algeria and Peru, to name a few).

Having consolidated its position as the leading European manufacturer, and the sixth largest in the world, of uncoated woodfree (UWF) printing and writing paper, the Group is also Europe’s top producer of BEKP (Bleached Eucalyptus Kraft Pulp), and the fifth largest in the world.

The Group has successfully pursued a strategy of innovation and development of its own brands, which today account for 62% of sales of manufactured products. Special mention should be made of the Navigator brand, the world’s best-selling product in the premium office paper segment. The Navigator brand achieved record sales in 2015.

It sells products to 123 countries over five continents, with a special focus on Europe and the US, giving it the broadest international base of any Portuguese company.

As a vertically integrated forestry group with its own research institute, it leads the world in the genetic improvement of the Eucalyptus globulus. It manages vast tracts of forest in Portugal certified under the FSC® and PEFC systems, and boasts annual production capacity for 1.6 million tons of paper, 1.4 million tons of pulp (of which 1.1 million is integrated into paper) and power generation of 2.5 TWh/year.

The Group operates one of Europe’s largest nurseries for forestry plants. Located in Portugal, it has annual production capacity of approximately 12 million certified plants of various species, destined for use in renewing Portugal’s woodlands.

As part of its strategy for international expansion, the Group acquired during the reporting period (2014/2015) a tissue paper manufacturer in Vila Velha de Ródão and is implementing a major vertically integrated forestry project in Mozambique, as well as building a new pellets facility in the US.
4.2 INDUSTRIAL FACILITIES IN PORTUGAL

CACIA INDUSTRIAL COMPLEX
Location: Cacia, in the Aveiro region, in the heart of Portugal’s largest eucalyptus-growing area;
Started up: 1953;
Main products: Pulp for producing high value added specialty papers, including decor papers, filter and cigarette paper and flexible packaging;
Annual production capacity: 353 thousand tons;
Output in 2014/2015: 598 thousand tons.

This is where, in 1957, pulp was first produced from eucalyptus using the Kraft process.
Production capacity was increased by 20% in 2015 to 353 thousand tons/year.

FIGUEIRA DA FOZ INDUSTRIAL COMPLEX
Location: South of Figueira da Foz, in Lavos;
Started up: 1984;
Main products: Paper: large formats for the printing industry, and A4 and A3 office paper;
Annual production capacity: 570 thousand tons of pulp fully integrated into approximately 790 thousand tons of uncoated woodfree paper (UWF);
Output in 2014/2015: 1,145 thousand tons of pulp and 1,608 thousand tons of paper.

It is currently one of the largest and most efficient industrial units in Europe producing uncoated woodfree paper. This industrial complex is the birthplace of the Navigator brand, the world’s best-selling brand of premium office paper.

VILA VELHA DO RÓDÃO INDUSTRIAL COMPLEX
Location: Vila Velha de Ródão;
Started up: 2009;
Main products: Tissue paper, including household products and products for industrial use;
Annual production capacity: 60 thousand tons of tissue and 65 thousand tons of converted products (end product);
Output in 2014/2015: 59 thousand tons of tissue and 66 thousand tons of converted products (end product).

Acquired by the Group in 2015, this plant is considered the most efficient and profitable in this segment in the Iberian Peninsula.
A new tissue paper machine was installed in 2015 with capacity of 37 thousand t/year and converting capacity of 19 thousand t/year.

This report does not year include a performance assessment of this unit.

SETÚBAL INDUSTRIAL COMPLEX
Location: Mitrena, by the Sado Estuary;
Started up: 1964;
Main products: Office paper and large format paper for the printing industry. Includes a mill producing bleached eucalyptus pulp and two mills producing uncoated woodfree paper (UWF);
Annual production capacity: 550 thousand tons of pulp and 775 thousand tons of paper;
Output in 2014/2015: 1,716 thousand tons of paper and 1,099 thousand tons of pulp.

The UWF paper machine inaugurated in 2009 at the Setúbal Industrial Complex is the largest and most sophisticated in the world. It produces 30m of paper a second.

4.3 PORTUCEL GROUP BRANDS
5
MANAGING SUSTAINABILITY
“The Portucel Group aspires to being a leading Portuguese multinational, achieving high levels of returns at the same time as improving its environmental and social impact.”
5.1 CORPORATE GOVERNANCE

The governance of the Portucel Group is entrusted to a Board of Directors comprising fourteen members, a chairman and thirteen vowels, elected at the General Meeting for a 4-year term. Six of the fourteen members of the Board of Directors are designated to conduct the executive management of the Group, making up the Executive Board. Detailed information on the duties, responsibilities, professional experience, pay and other benefits, together with other data relevant to Group governance may be consulted in the Group’s Annual Report or on its website.

The Board of Directors is also supported by a number of specialist committees which make their contributions in their specific fields of expertise, as shown in the figure.

5.1.1 Ethics and integrity

The Code of Ethics, in force since 2011, provides a reference for all Employees, setting out the values, principles and procedures which should underlie their actions at all times.

The Group offers all stakeholders direct access, through its website, to the Ethics Committee, ensuring that information is treated confidentially and impartially.

The Ethics Committee issues an annual report on compliance with the standards laid down in the Code of Ethics, accounting for its work and setting out the findings and follow-up proposals adopted on the various matters submitted for its consideration. This report is included in the Corporate Governance Reports for 2014 and 2015.

5.1.2 Risk management

The Management Reports and the Social Governance Reports for 2014 and 2015 describe the work carried out by the Group in identifying, controlling and managing the main risks deriving from its activities and business operations. Risk factors include the specific risks of the business sectors in which the Group operates and the risks deriving from the way in which the Group carries on this business.

This report focuses primarily on the management of the central environmental and social risks, complementing the information contained in the Annual Reports and in the Corporate Governance Reports.
5.2 SUSTAINABILITY GOVERNANCE

The crucial attitude in a sustainable business is to operate transparently, responsibly and with integrity. To develop a meaningful strategy, a dedicated structure is needed with clearly defined responsibilities for all parties involved.

5.2.1 Sustainability Department

Sustainability is one of the Portucel Group’s fundamental values and is vital for its business, now and in the future. In view of this, the Group set up a new Sustainability Department at corporate level, in July 2015, with the mission of supporting policy design and strategic planning, running programmes to promote sustainable development and monitoring the Group’s business activities, so as to create a uniform approach, to generate synergies between functions and to hard-wire sustainability into the Portucel Group’s corporate culture.

5.2.2 Sustainability Forum, Ethics Committee and Environmental Board

Three bodies in the Group have special responsibility for ensuring that sustainable development issues are properly managed, by monitoring, overseeing and providing advice for the work of the Board of Directors and the Executive Board. These are the Sustainability Forum, the Ethics Committee and the Environmental Board, whose members possess special experience and expertise.

**SUSTAINABILITY FORUM**

- Chaired by the CEO. Includes members of the former Sustainability Committee and now includes the members of the Environmental Board;
- **Mission:** to promote dialogue and cooperation with the main stakeholders on major sustainability issues.

**ETHICS COMMITTEE**

- Comprises respected figures appointed by the Board of Directors;
- **Mission:** to assess and consider any situation which arises in relation to compliance with the Code of Ethics. It also advises the Board of Directors on matters relating to the application and interpretation of the Code of Ethics.

**ENVIRONMENTAL BOARD**

- The Environmental Board was set up in 2008 and consists of five members, who are all independent technical and scientific experts, particularly in areas corresponding to the main environmental concerns raised by the Company’s operations as they currently exist;
- **Mission:** To monitor and issue its opinion on the environmental aspects of the Company’s business, and to issue recommendations on the environmental impact of the Company’s main ventures, paying particular attention to legal requirements, licensing requirements and the Company’s policy in this area.

5.3 SUSTAINABILITY STRATEGY

5.3.1 What inspired us

The Group’s Mission, Vision and Values embody a commitment to a particular identity and strategy. These, combined with listening to our stakeholders, and the policies and practices already implemented in the Group, seen alongside best international practices, have led the Portucel Group to define a sustainability strategy based on six Action Areas.

5.3.2 The stages in the process

1 Identify Management Policies

The Portucel Group has a number of corporate policies in the field of Sustainability, including its Forestry Policy, Forestry Code of Good Practice, Suppliers Policy, Human Resources and Social Values Policy, Community Engagement Policy, Sustainability Policy and Management Systems Policy.

The Group has also implemented an Integrated Management System at all its plants. This system is certified in terms of Quality, Environment and Safety Management under ISO 9001, ISO 14001 and OHSAS 18001, respectively.

The Management Systems Policy is based on the principle of continuous improvement, and a number of projects have been undertaken to improve the industrial processes involved in manufacturing pulp and paper.

These systems are reflected in operational management procedures which help the Group perform better in various areas, including the environment, products and workforce.

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* SUSTAINABILITY REPORT 2014/2015

**MANAGING SUSTAINABILITY**

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**THE NAVIGATOR COMPANY**

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In the process of defining the Portucel Group’s sustainability strategy, listening to stakeholders is recognised as an essential contribution to achieving Sustainable Development in the Group.

Listening to external and internal stakeholders allows the Group to assess its sustainability performance, reputation and image, and to assess satisfaction with sustainability reporting, to identify priority topics in the field of sustainability and pinpoint opportunities for improvement.

Engagement process

In 2015, the Portucel Group conducted a stakeholder engagement process. The Company’s stakeholders were consulted by means of a questionnaire asking them to assess the Group’s relevance and performance on sustainability issues.

The information obtained in this process, combined with the perspective of senior management, provided the basis for identifying the material sustainability aspects addressed in this report, and for responding to the main concerns of the more critical stakeholders.

The sample selected for this process of stakeholder consultation included a variety of groups, the most important of which were Clients (26%), Employees (22%) and Suppliers (20%). The response rate was 89%.

The material aspects identified by these stakeholder groups were:

- Efficient financial and operational management
- Strategic plan
- Customer satisfaction
- Ethics/Transparency/Anti-corruption
- Sustainable forestry management
- Innovation and innovative products
- Sustainable management of value chain
- Innovation and innovative products
5.3.3 The sustainability management model

5.3.3.1 Strategic areas for action

The three stages described above helped to define 6 areas for action based on strategic commitments, defining the Group’s stance on sustainability issues. For each of these areas, the Group has set objectives, targets and an action plan for implementing short/medium term measures.

RESULTS

Positive aspects

Economic pillar
- 93.8% of stakeholders consulted think that the Portucel Group presents a clear vision of its economic responsibilities;
- 97.6% think that the Group has interesting prospects for future growth and for improving its profitability;
- 97.6% regard the Group as innovative and competitive;
- More than 90% of the stakeholders consulted consider that the Group is concerned with developing innovative products, which offer additional value for its customers, that it has premium brands which are outstanding in terms of quality and innovation;
- 91.7% think that the Group is very important to the Portuguese economy;
- 91.7% consider that the Group is known for being financially sound, for offering a quality service, for satisfying its customers and for its excellent marketing operations.

Environmental pillar
- 85.4% of stakeholders consulted think that the Portucel Group presents a clear vision of its environmental responsibilities;
- 87.5% think that the Group seeks to manage the resources it uses efficiently, in both forestry and industrial facilities;
- 85.5% regard forestry certification as a distinctive feature of the Group;
- 85.5% consider the Group an environmentally responsible company which develops products reflecting these concerns.

Social pillar
- 83.3% consider that the Group has taken action in the field of social responsibility to the community;
- 81.3% think that the Group complies with ethical principles in conducting its advertising strategies and campaigns.

A majority of the stakeholders consulted (75%) is satisfied with the 2012/2013 Sustainability Report. The Group’s reporting was rated “very good” or “good” in the vast majority of cases for “frequency”, “content”, “detail”, “clarity” and “transparency”.

Opportunities for improvement
- Availability of paper products with environmental credentials;
- Disclosure of social responsibility and environmental projects;
- Only 66.7% of stakeholders consider that the Group’s conduct is in line with principles of equality in its dealings with stakeholders and 72.9% think it presents a clear vision of its social responsibility;
- Although the Portucel Group performs well on the issues that stakeholders regard as most important, opportunities were identified for improvement on the following issues: stakeholder engagement and sustainable management of the value chain.

3 Examine the highest standards

In defining strategic areas for action, benchmarking was fundamental for identifying sustainability priorities and trends in the sector, relevant sustainable issues and best international practices.

The materiality analysis identified 6 high priority aspects and 11 medium priority aspects.
5.3.3.2 Details of each area for action

For each area for strategic action, the Group has defined its vision, demarcated the material aspects and identified the stakeholders involved.

The list of areas is complemented by aims, programmes and specific projects, in order to assess performance on a sustained basis over time, without forgetting that the involvement of the entire workforce is essential for the success of this strategy.

### What are the operational areas?

<table>
<thead>
<tr>
<th>BUSINESS</th>
<th>SUPPLY CHAIN</th>
<th>FORESTRY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Efficient financial and operational management</td>
<td>Sustainable management of value chain</td>
<td>Sustainable forestry management</td>
</tr>
<tr>
<td>Job creation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strategic plan</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ethics/transparency/anti-corruption</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Innovation and innovative products</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Which are the material aspects?

<table>
<thead>
<tr>
<th>BUSINESS</th>
<th>SUPPLY CHAIN</th>
<th>FORESTRY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Efficient financial and operational management</td>
<td>Sustainable management of value chain</td>
<td>Sustainable forestry management</td>
</tr>
<tr>
<td>Job creation</td>
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<tr>
<td>Strategic plan</td>
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<tr>
<td>Ethics/transparency/anti-corruption</td>
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<tr>
<td>Innovation and innovative products</td>
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### Which stakeholders are involved?

<table>
<thead>
<tr>
<th>BUSINESS</th>
<th>SUPPLY CHAIN</th>
<th>FORESTRY</th>
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<tbody>
<tr>
<td>STATE AND REGULATORY AUTHORITIES</td>
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<td></td>
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<tr>
<td>SCIENTIFIC AND TECHNOLOGICAL SYSTEM</td>
<td></td>
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</tr>
<tr>
<td>FORESTRY, LANDOWNERS AND ASSOCIATIONS</td>
<td></td>
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<tr>
<td>NGO</td>
<td>CUSTOMERS</td>
<td>BUSINESS ASSOCIATIONS</td>
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<tr>
<td>COMMUNITY</td>
<td>SHAREHOLDERS</td>
<td>SUPPLIERS</td>
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<td>EMPLOYEES</td>
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### What are the operational areas?

<table>
<thead>
<tr>
<th>INDUSTRIAL OPERATIONS</th>
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<th>STAKEHOLDERS</th>
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<tbody>
<tr>
<td>Water management</td>
<td>Health and safety at work</td>
<td>Stakeholder engagement</td>
</tr>
<tr>
<td>Efficient energy management</td>
<td>Human capital development and attraction and retention of talent</td>
<td>Local development and support for the community</td>
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<tr>
<td>Air emissions</td>
<td>Labour relations</td>
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### Which are the material aspects?

<table>
<thead>
<tr>
<th>INDUSTRIAL OPERATIONS</th>
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<th>STAKEHOLDERS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Efficient energy management</td>
<td>Health and safety at work</td>
<td>Stakeholder engagement</td>
</tr>
<tr>
<td>Air emissions</td>
<td>Human capital development and attraction and retention of talent</td>
<td>Local development and support for the community</td>
</tr>
<tr>
<td>Efficient management of raw and subsidiary materials</td>
<td>Labour relations</td>
<td></td>
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### Which stakeholders are involved?

<table>
<thead>
<tr>
<th>INDUSTRIAL OPERATIONS</th>
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<td>SUPPLIERS</td>
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<tr>
<td>EMPLOYEES</td>
<td></td>
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</table>
“2014/2015 marked the start of a New Cycle of growth for the Portucel Group. This involves a process of reflection and strategic planning which aspires to turn the Group into a multinational based in Portugal, and one of Portugal’s leading players on the world.”
6.1 THE BUSINESS PERSPECTIVE

6.1.1 Growth Cycle focussed on International Expansion*

Alongside its heavy investment in expanding its operations in Portugal and abroad, the Portucel Group decided to rebrand itself in early 2016 as The Navigator Company. The new brand has united companies with a history of more than 60 years, seeking to provide a more up-to-date and appealing image for one of Portugal’s leading business groups, with a strong international dimension.

2014/2015 marked the start of a new cycle of growth for the Portucel Group. The “New Cycle” project started with a process of strategic reflection and planning, allowing the Group to map out the road to development over the decade ahead (2015/2025). This will involve expanding and diversifying its business and developing its industrial base abroad. As the logical continuation of the previous phase of development, in which the Group established itself as the leading European manufacturer of uncoated paper, the new cycle of growth is founded on a new ambition: to transform the Group into a leading Portuguese-based multinational, and one of Portugal’s strongest players on the world.

Plans for international expansion took a major stride forwards at the end of 2014 when agreement was reached with International Finance Corporation (IFC), a World Bank subsidiary, allowing it to take up a 20% stake in Portucel Moçambique, the company responsible for the Group’s integrated project of forestry, pulp and energy in Mozambique.

Forestry plantation operations expanded significantly in Mozambique in 2015 with a view to supplying the future industrial complex. In an important breakthrough for the Group’s project in this country, Portucel Moçambique successfully obtained the environmental license needed for forestry operations in Zambézia and Manica provinces. It was also completed in 2015 the work on the Luá nurseries, in Zambézia province, designed to produce cloned saplings on an industrial basis, starting with capacity for 6 million plants a year, which has since been doubled. The nurseries were officially opened at the start of September, at a ceremony attended by the senior executives of the Portucel Group, and also by the President of Mozambique and representatives from IFC.

At the same time, in the United States, the Group announced in 2014 its plans to build a pellets facility in South Carolina, an investment which will enable the Group to broaden its experience of processing forestry materials and of industrial processes in the promising bioenergy sector. In 2015 started the construction of the foundations and buildings where the main equipment will be fitted, and on the process of recruiting a workforce of approximately 70 who will operate the plant, due to start up in July 2016.

At home in Portugal, the Portucel Group successfully moved in 2015 into a new business area – tissue paper – through acquisition of the Portuguese company AMS-BR Star Paper S.A., located in Vila Velha de Ródão. The industrial complex is regarded as the most efficient and profitable in this segment in the Iberian Peninsula, and in 2015 doubled its production capacity. Another important development in Portugal in 2015 was the investment in increasing pulp production capacity at the Cacia Industrial Complex.

* G4-8
6.2 EFFICIENT FINANCIAL AND OPERATIONAL MANAGEMENT

6.2.1 Our value

<table>
<thead>
<tr>
<th>LEADING INDICATORS (IFRS)</th>
<th>2015</th>
<th>2014</th>
<th>VARIATION5</th>
<th>VARIATION 2015/2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>Million euros</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Sales</td>
<td>1,638.0</td>
<td>1,542.3</td>
<td>5.60%</td>
<td></td>
</tr>
<tr>
<td>EBITDA (1)</td>
<td>390.0</td>
<td>328.4</td>
<td>18.70%</td>
<td></td>
</tr>
<tr>
<td>Operating profits (EBIT)</td>
<td>282.9</td>
<td>218.3</td>
<td>29.60%</td>
<td></td>
</tr>
<tr>
<td>Financial Results</td>
<td>70.1</td>
<td>54.2</td>
<td>29.30%</td>
<td></td>
</tr>
<tr>
<td>Net income</td>
<td>186.4</td>
<td>181.5</td>
<td>2.60%</td>
<td></td>
</tr>
<tr>
<td>Operating Cash Flow</td>
<td>203.6</td>
<td>236.6</td>
<td>-13.80%</td>
<td></td>
</tr>
<tr>
<td>Free Cash Flow</td>
<td>81.0</td>
<td>236.6</td>
<td>-65.80%</td>
<td></td>
</tr>
<tr>
<td>Capital Expenditure</td>
<td>148.5</td>
<td>100.5</td>
<td>47.70%</td>
<td></td>
</tr>
<tr>
<td>Interest-bearing Debt (3)</td>
<td>434.1</td>
<td>273.6</td>
<td>380.9</td>
<td></td>
</tr>
<tr>
<td>EBITDA/Sales</td>
<td>24.0%</td>
<td>21.3%</td>
<td>3.7 pp</td>
<td></td>
</tr>
<tr>
<td>ROS</td>
<td>12.1%</td>
<td>11.8%</td>
<td>0.3 pp</td>
<td></td>
</tr>
<tr>
<td>ROE</td>
<td>14.7%</td>
<td>10.4%</td>
<td>4.3 pp</td>
<td></td>
</tr>
<tr>
<td>ROCE</td>
<td>9.7%</td>
<td>10.4%</td>
<td>0.7 pp</td>
<td></td>
</tr>
<tr>
<td>Net Debt/EBITDA (4)</td>
<td>1.7</td>
<td>0.8</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(1) Operating profits + depreciation = provisions
(2) EBITDA + interest-bearing debt – purchase of own shares
(3) Interest-bearing net debt – liquid assets
(4) EBITDA corresponding to last 12 months
(5) Percentage variation corresponds to figures not rounded up/down
(6) Value of investment does not include € 41 million relating to acquisition of APM

2015 was a landmark year in the history of the Portucel Group, not just because of the launch of the strategic development plan for the new cycle of growth, but also because of the excellent operating performance achieved in its core pulp and paper business. Turnover in this period stood at 1.6 billion euros, the highest ever recorded, and consolidated net income grew by 8.2% to 196.4 million euros. This growth was due in part to the inclusion of tissue business in the Group’s consolidated accounts. Paper sales accounted for 75% of turnover, with power sales representing 12%, pulp 9% and tissue around 3%. The Group’s consolidated EBITDA rose strongly to 390 million euros, representing an increase of approximately 61.6 million in relation to 2014. The new tissue operations made a positive contribution to this of 8 million euros, whilst the forestry project in Mozambique and the pellets project in the US, both at the investment stage, had a negative impact on 2015 EBITDA of approximately 10.9 million euros, in comparison with the figure recorded in 2014.

In its main business segment, the Group recorded growth of 4.0% in the value of paper sales in 2015, which were in excess of 1.2 billion euros at their highest ever level. The Navigator brand remained the Group’s top performer, achieving growth of 2.4% and maintaining levels of penetration and brand recognition unrivalled in the industry.

Over the course of 2015, the Group continued to demonstrate excellent capacity for generating cash flow, with operational cash flow standing at approximately 303.6 million euros (as compared to 291.6 million euros in 2014). This capacity to generate funds, combined with the Group’s sound financial position, meant that it had no difficulty in meeting its significant financial commitments in the period, including investment spending, which totalled approximately 148.5 million euros.

Overall, in 2014/2015, the Group has decided to look elsewhere for sustainable growth and to develop a plan for a new phase of development, whilst retaining strict concern for protecting its financial soundness and its ability to provide a return for shareholders.
6.2.2.2 Environmental concerns

The Portucel Group’s paper brands and product range reflect its sustainability strategy and it concern for protecting the environment.

Since starting to manufacture 75 g/m² office paper, the Group has been working towards a reduction in unit consumption of water and energy per tonne of pulp and paper output, using primarily renewable energy: more than 2/3 of the total energy produced by the Group is obtained from a renewable resource: biomass. In the past decade, the percentage of products marketed by the Group with environmental labels, such as the FSC®, PEFC or the EU Ecolabel, has risen from 0 to 44%.

The licensing of the industrial sites to use the EU Ecolabel has also strengthened the environmental credentials of the Group’s paper brands, sold to markets increasingly sensitive to these issues. Brands such as Navigator, Discovery, Pioneer, Explorer and Inacopia now include a 75 g/m² option, and in the US the Navigator brand now offers an 18 lb option. This makes the Portucel Group the leader in the segment for office paper with grammages of less than 80 g/m² in Europe, a segment which grew from 2005 to 2014 at an annual rate of 10.5% (Source: EUROGraph). This is clear proof that efficient use of resources is a growth business which the Portucel Group embraced at an early stage.

6.2.2.3 Customer satisfaction

Customers are a key link in the value chain, which is why the Portucel Group has worked hard to reach out to its clients, to respond to evolving market needs and to build relationships based on loyalty, believing these issues to be fundamental to its engagement with these stakeholders.

The customer satisfaction index and the complaints management system are two priority tools used to monitor Group compliance in relation to this approach.

The customer satisfaction index allows to assess satisfaction levels and to validate the Group’s entire management model for its customer relations and product range. This index is calculated using confidential satisfaction questionnaires, managed by an independent agency, which look at the importance, expectations and experience of the customer considering issues such as perception of product quality, services (delivery, logistics and after-sales service), marketing and sales. The index is calculated on the basis of the ratio between the customer’s experience and expectations on each individual criterion, weighted by the importance of this criterion.
The customer satisfaction survey for printing and writing paper clients is conducted every two years using a base of approximately 400 customers, with an average response rate of more than 50%.

A total of 33 criteria are considered, which include aspects relating to intrinsic product quality, printability, environmental performance, flexibility and speed of response to special requests, delivery times and punctuality, flexibility and speed in handling complaints, value for money, promotional support, launch of new products and the standard of service provided by the sales force.

The last survey, conducted in 2015, revealed an overall satisfaction rate of 91%, consolidating the results achieved over recent years.

6.2.2.4 Job creation

The Portucel Group is responsible for generating skilled employment and specialist professional careers. At the end of the year, it had a direct workforce of more than 2,200 Employees, as well as helping to create a much larger volume of indirect employment, especially in the forestry, logistical, engineering and industrial maintenance sectors.

Over the past decade, the Group’s direct workforce has grown by 34%. In Portugal, the Group works with more than 5,000 suppliers in various sectors of the economy and is responsible, directly and indirectly, for generating a further 30,000 jobs.

Research conducted by the consultants KPMG in 2014 into the Portucel Group’s performance showed that:

- The Group’s three industrial units – Cacia, Figueira da Foz and Setúbal – generate more than 30 thousand jobs in Portugal.
- These units contribute, directly and indirectly, more than 2.6 billion euros to Portugal’s GDP.
- For each euro spent by the three plants, 2.8 euros are generated in the economy of the three surrounding regions and 1.0 euros in the national economy as a whole.
- Purchases from Portuguese suppliers account for 80% of total spending at the Setúbal plant, 75% in Cacia and 70% in Figueira da Foz, clearly illustrating the extremely high level of locally sourced goods in the Group’s output.

This research will be complemented in 2016 with information on the tissue mill in Vila Velha de Ródão.

6.2.3 Innovation

6.2.3.1 Innovation culture

One of the major internal developments in 2015 was the launch of the “Re-Innovate the home” programme. This is a motivational programme which seeks to encourage and instil a culture of innovation in the Group. The programme was launched on Innovation Day, in July 2015, and sets out to focus the Portucel Group’s efforts on the core issues for its business success.

The events on Innovation Day included inviting around 80 Employees to respond to 9 challenges currently facing the Company. In an exercise designed as a launchpad for the Group’s innovation programme, these Employees were organised into teams and asked to look at key issues and draw up their own proposals on how to respond to these challenges. The teams presented their projects at an event in December 2015, and the proposals were assessed by an internal panel of judges, which selected those with the potential for implementation and awarded a prize for the best idea.

The 2015 Innovation Prize was awarded at the 1st Portucel Group Management Meeting, held in early February 2016, and went to the “Cliffit” project. The winning proposal was for a new product based on cellulose filaments to be used in the innovative and promising 3D printing industry.

Pedro Sousa, Innovation and Internal Consultancy Manager

“Innovation Day was the first step in mobilising the entire organisation. The Portucel Group has always been extremely innovative, and this has made us what we are today. So we should be inspired by our past achievements and take this one step further: we need to re-innovate.”

Organised in 2015, the event served as a launchpad for the Portucel Group’s Innovation Programme, as part of its New Cycle, fostering a culture based on a cycle of innovation and creativity. “What new applications are there for the paper, pulp and biomass business?” was one of the issues targeted for out-of-the-box thinking.

6.2.3.2 Research to support new business

In the field of forestry research, the Portucel Group stepped up its investment in projects conducted by RAIZ (forestry and paper research institute), in cooperation with organisations in Portugal’s scientific and technological system as well as foreign agencies. RAIZ main contributions in this field were: start of improved seed production at the Espirira orchard, incorporation of new materials in the Genetic Improvement Programme and support for reviewing the Group’s fertilisation programme, on its irrigated eucalyptus projects and on implementation of a more accurate model for estimating forest yields.

The institute also ran a programme of technical support and R&D for the project in Mozambique, helping with assessment of trial plantations, plant health issues, identifying opportunities for improving forestry practices, setting up bioenergy plantations and establishing contacts with educational establishments in Mozambique and South Africa.

The Group conducted industrial research in the fields of pulp, paper and bioproducts, with a view to designing new processes and tradable products, destined for the global market, based on sources of renewable raw materials. This also involved demonstrating the feasibility of new businesses and confirming market potential. With support from RAIZ, the Group undertook the GREN NMC and GREN BioBlocks projects, leading a consortium of Portuguese research entities consisting of the National Engineering and Geology Laboratory, the University of Porto, the Higher Technical Institute, Biotrend, the University of Aveiro, the University of Coimbra, Universidade Nova de Lisboa, the University of Beira Interior, Bragança Polytechnic Institute and the Institute of Welding and Quality (I5Q).

These projects resulted in new technological processes and products, including micro- and nanocellulose, xylans, sugars (glucose and xylose) and modified lignins, as the base materials for new advanced applications. Work on demonstrating the potential for use in market applications confirmed the usefulness of the new cellulose products in the production of nanocellulose threads, production of membranes through electrospinning, additives for anti-corrosion treatments, incorporation in composites for the automobile industry and transparent xylan films with barrier properties for producing packaging.

The development of lignins led to assessment of the potential for producing vanillin, syringaldehyde, lignin glue for cork agglomerates and rigid lignin polyurethane foams. Research into sugars also involved assessing the technical feasibility of producing bioplastics, biocellulose, bioethanol and lactic acid.

A preliminary study was conducted of the technological and economic feasibility of producing bioethanol, with support from the National Engineering and Geology Laboratory, from mixed forestry, agricultural and industrial sources, improving levels of profitability and the security of supply.

Significant progress was also made on demonstration projects in the field polymer composites with cellulose fibre and industrial trials were conducted of compounding polymers with cellulose pulp and injecting parts for the automobile industry.

In 2015, RAIZ was a keen but critical follower of international efforts to develop environmental assessment indexes for water consumption and the concept of the Water Footprint Network.
6.3 INTERNATIONAL EXPANSION AND BUSINESS DIVERSIFICATION

6.3.1 Portucel Moçambique

Portucel Moçambique is the company implementing the Group’s integrated forestry, cellulose pulp and energy project expected to have a structural impact on Mozambique’s economy.

Project for International expansion of manufacturing base

- Land use rights (DUAT) over an area of more than 173 thousand hectares in Zambézia province and approximately 183 thousand hectares in Manica province, 2/3 of which is intended for forestry;
- Integrated forestry, cellulose pulp and energy project;
- Investment currently estimated at 3 billion dollars;
- 7,500 jobs.

Timeline:

- **NOVEMBER 2007** First technical mission to Mozambique
- **APRIL 2009** Portucel Moçambique incorporated
- **DECEMBER 2010** Start of trial plantations
- **JULY 2008** MoU (memorandum of understanding) signed
- **DECEMBER 2011** Land use license for Manica
- **JANUARY 2013** Launch of Communication and Land Access Programme
- **MAY 2015** Launch of Social Development Programme
- **SEPTEMBER 2015** Official opening Luá Nurseries
- **DECEMBER 2014** Agreement with IFC for acquisition of 20% of Portucel Moçambique
- **2015** Environmental licensing
- **AFTER 2015** Forestry bases: Initiation Industrial project
Activities with the following aims, in addition to that of avoiding physical displacement of families and communities:

- Avoiding economic displacement;
- Helping families to increase their income;
- Improving the quality of life.

Communication initiatives to present the project and listen to the opinions and concerns of local people;
- Developing a Communication Manual used by fieldworkers in their dealings with communities.

Stakeholders Management Plan

In order to work towards the Group’s aims of establishing good relations and ongoing dialogue with its social environment, it was essential to draft a Stakeholders Management Plan focussing in particular on vulnerable communities and groups, in order to be truly inclusive.

This plan provides a framework for community relations and four key instruments have been developed for this purpose. These are managed by dedicated teams especially trained to communicate with local people.

Example of mosaic model implemented by Portucel Moçambique in the Nkopola area, Zambézia province.

Luá Nurseries – the largest in Africa

On 8 September 2015, the President of Mozambique, Filipe Jacinto Nyusi, officially opened the Luá Nurseries, the largest nurseries for cloned plants in Africa. Occupying 7.5 hectares and with annual production capacity in excess of 12 million plants, the nurseries produce 9 eucalyptus clones, which have been selected as the most efficient and best adjusted to conditions in Mozambique.

The nurseries are located in Luá, Ile district, in Zambézia province, and currently employ a workforce of 168, mostly contracted from local communities.

Example of mosaic model implemented by Portucel Moçambique in the Nkopola area, Zambézia province.
An advisory committee has been set up for the Group’s forestry investment project in Mozambique as a way of promoting dialogue with stakeholders. This body is designed to function as a forum for debate and advice between the Group, civil society organisations and communities. It comprises members from five institutions representing Mozambican civil society, a representative of Portucel Moçambique and a representative of the Mozambican Government. The Advisory Committee will deal with environmental and social issues, the social development programme, human and economic development, social and cultural rights and gender equality. In addition to its advisory role, the committee will monitor progress on the project and Portucel Moçambique’s implementation of its forestry plans.

Social Development Programme (SDP)
Portucel Moçambique’s Social Development Programme seeks to share economic and social development with local communities in the areas licensed to the Company for forestry development. Since signing the contract with the Government of Mozambique, the Group has already earmarked a total of USD 40 million for implementing this programme.

In addition, Portucel Moçambique is working in conjunction with civil society organisations in the country to bring in funds from other donors, in order to expand the SDP.

The programme seeks in general to contribute to economic and social development and to improve the quality of life of the communities in Portucel’s land concessions. The specific aims are to improve the level of food security (quantity and quality) enjoyed by families and communities, to raise development and income standards to above poverty levels, to improve the quality of life of families and communities and to address a number of general issues (asset management, savings, forestry, the potential of voluntary associations, etc.).

Broad participation by civil society
1. Licensing phase: approximately 5,000 people participated in the process of public consultation with local communities;
2. Environmental and Social Impact Assessment: around 15,000 people took part in 71 public consultation meetings;
3. Presentation and discussion of Social Development Programme: meetings with more than 100 civil society organisations and around 20 potential donors.

The SDP on the ground
Up to 2015, the SDP involved direct support for 4,600 families in six districts in the provinces of Zambézia and Manica, including farming activities.

ZIC – Zones with Interest for Conservation
Portucel Moçambique started to apply the Zones with Interest for Conservation procedure in 2015, in order to step up protection and preservation of areas of special environmental value (biodiversity and ecosystems), as well as the cultural heritage of the various communities living in the project areas. These areas include cemeteries, traditional trees and other religious sites. Special environmental protection is being assured by means of protection zones for water courses and also rocky outcrops (especially inselbergs), as well as slopes and hillsides, prone to erosion, which are left intact, with their natural vegetation.

6.3.1.3 Integrating the Environment
In order to safeguard the environment, Portucel Moçambique’s forestry project was subject to an Environmental Impact Assessment, on the basis of which it obtained environmental licenses in 2015 for the projects in the provinces of Zambézia and Manica.

6.3.1.4 Integrating Employees
Local Recruitment
Over the course of 2014 and 2015, Portucel Moçambique’s workforce expanded from 83 to 228. The Group has given priority to contracting Mozambican Employees, especially from communities and families which are partners in the project and from the provinces, districts or communities in which the project is located.

One of the distinctive features of this project is that all Employees have the chance to acquire personal and professional skills. Training for human resources is an under-developed area in Mozambique, and is a key factor for the success of a large scale project such as this. The Group has accordingly sought to equip its staff with technical skills, not just in the areas in which they work, but also in cross-sector areas, such as environmental and social ZIC, defensive driving, off-road driving, geographical information systems, health and safety at work and IT user skills.

Safety Programme
With support from IFC (International Finance Corporation), Portucel Moçambique is designing a programme to ensure the well-being and safety of all its Employees and local communities, which includes ongoing training for all technical staff, acquisition of individual protection equipment and quality control for service providers. Significantly, no serious accident was recorded during the reporting period.

6.3.1.5 Integrating research and development
Improved plants
Portucel Moçambique has had regular support from RAIZ in selecting the eucalyptus plants best suited to the growing conditions in Mozambique, taking into consideration factors which include resistance to pests and diseases (health), yields (growth rate in height and industrial yields) and adaptability to climatic conditions.
6.3.2 Tissue paper in Vila Velha de Ródão

AMS-Star Paper, S.A., a tissue manufacturer located in Vila Velha de Ródão, was acquired by the Portucel Group in 2015. In business terms, this plant is outstanding for its contribution to development of the regional economy and for its profitability, having recorded turnover of 34,6 million euros in its first full year of operation, an impressive achievement for a venture at the start-up phase.

As regards its social impact, the mill has created skilled jobs in an under-developed area and made a valuable contribution to the local community, supporting around a hundred local charities, institutions and associations in 2015.

In environmental terms, the company completed the procedure in 2015 for the changes to its environmental license and water resource use permit required for expansion of the facilities and the doubling of its production capacity. The mill was also certified under NP EN ISO 50001 (Energy Management System), demonstrating its successes in energy efficiency and sustainability of the production process.

Archaeological Site

The building works for the facilities extension revealed a pre-historical archaeological site, containing thousands of knapped stone tools, typical of the Middle Palaeolithic, i.e. tools made by Neanderthal man.

The plan drawn up by the research team and approved by the Directorate-General of Cultural Heritage made it possible to conciliate archaeological concerns with progress on the industrial project.
6.3.3 Bioenergy in the US

In the 1st quarter of 2015, the Portucel Group started work on the construction of a pellets facility in South Carolina, United States, with annual production capacity of 500,000 tons. This unit is due for completion in the 3rd quarter of 2016 and represents total investment estimated at USD 116.5 million.

This investment is an opportunity for the Portucel Group to expand its experience of industrial processing and forestry products, by taking its operations abroad and moving into bioenergy, a fast-growing sector which offers a renewable and sustainable alternative to the use of fossil fuels for producing energy.

Located in the Greenwood region, where supplies of the raw material are plentiful, the facility will occupy a plot on an industrial estate with a size and general conditions which allow for optimised layout of the plant, with all the infrastructures needed for operation. The Portucel Group is taking all the steps needed to obtain the certifications required in the sector.

Highlights

1. This industrial facility created 155 jobs in the region, and 41% of its workforce is aged under 30 years. At year-end 2015, it had 199 Employees;

2. The pulp used at this mill is obtained essentially from the neighbouring Altri pulp mill, from where it is piped. Incorporation of this pulp has resulted in significant economic and environmental advantages, including an annual reduction of 11,000 tons in CO2 emissions and also a reduction in specific energy consumption (per unit of product) in the refining process, representing around 15% to 20% of the total electrical power needed to produce the paper;

3. The Vila Velha de Ródão complex is certified under NP EN ISO 14001, the Ecobaudel standards, PEFC ST 2002 and NP EN ISO 50001, and is in the process of FSC® certification. 95% of the waste produced at this plant is reused;

4. European Enterprise Promotion Award for the “AMS Thinking Ahead” project;

5. Start-up of new tissue paper production line;

6. A customer satisfaction survey was conducted in 2015, arriving at an overall satisfaction rate of 66% from an assessment of more than 260 customers, with a response rate of 59%. The survey considered a range of criteria including product quality, standard of service, marketing, prices and sales.

European Enterprise Promotion Awards 2014

The “AMS Thinking Ahead” project won the 2014 European Enterprise Promotion Award (EEPA) - in the category for “Supporting the development of green markets and resource efficiency”. AMS was singled out as the only supplier of tissue paper in Europe to use a pipeline to transport slurry pulp. This is a distinctive, eco-friendly production process in which water is used as the vehicle for transporting the raw material.

Highlights

1. This facility will create around 70 direct jobs and several indirect employment, during the construction and operation phases, in the forestry, manufacturing and services sectors. At year-end 2015, the plant had a total of 14 Employees;

2. When compared with energy produced from fossil fuels, energy production from pellets offers clear environmental advantages. In addition to being carbon neutral, because all the carbon dioxide emitted in burning is recaptured in growing trees, it is also low in greenhouse gas emissions. The high density of pellets makes it possible to optimise transport, handling and storage operations, reducing the carbon footprint of the entire logistical process.

Pellets, an energy alternative

Pellets are an essential means for Europe to reduce its dependence on fossil fuels, at the same time as cutting emissions of carbon dioxide and other pollutants into the atmosphere, as defined in its 2020 energy policy, and helping to improve the well-being and health of the population and to conserve the environment.
ACTION PLAN 2016/2020

2016
Adapting the Portucel Group’s reporting process to the new Global Reporting Initiative guidelines: GRI version G4

2016
“New Cycle” Programme - Colombo Project (USA) start-up

2016
“New Cycle” Programme - Tissue Cacia Project

2016
Adapting the Portucel Group’s reporting process to the European Directive on non-financial reporting

2016
Review, dissemination and renewed application of the Code of Ethics

2016
“New Cycle” Programme - Forestry project in Mozambique in line with recommendations from environmental and social impact assessment, forestry certification rules and IFC’s requirements

2016
Implement cost-cutting measures in M Programme (More with Less)

2016
Adapting the Portucel Group’s reporting process to the new Global Reporting Initiative guidelines: GRI version G4

2016
Lean Project

Ongoing
Re-innovate the home Project

Ongoing
Increase sales of products with environmental labels recognised in the market (FSC®, PEFC or Ecolabel)

Ongoing
New business opportunities related to production of biofuels and bioproducts from wood, cellulose pulp and by-products

2016
Review, dissemination and renewed application of the Code of Ethics

2017
Adapt the Portucel Group’s reporting process to the European Directive on non-financial reporting

Ongoing
Implement cost-cutting measures in M Programme (More with Less)

Ongoing
“New Cycle” Programme - Forestry project in Mozambique in line with recommendations from environmental and social impact assessment, forestry certification rules and IFC’s requirements

Ongoing
Re-innovate the home Project

Ongoing
Increase sales of products with environmental labels recognised in the market (FSC®, PEFC or Ecolabel)

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New business opportunities related to production of biofuels and bioproducts from wood, cellulose pulp and by-products
“Aware of its responsibility for developing sustainable business partnerships, the Portucel Group has concentrated its efforts on screening its suppliers, in order to ensure that their activities, in Portugal and around the world, contribute to minimising economic, social and economic impacts throughout the value chain.”
7.1 SUSTAINABLE MANAGEMENT OF THE SUPPLY CHAIN

7.1.1 Code of Ethics and Conduct

The international expansion of the Portucel Group has created tough new challenges in marketing its products and locating new sources of supply. Considering the growing number of suppliers in distant geographical regions, the Group has drawn up a Code of Ethics and Conduct for Suppliers designed to provide its business partners with guidelines on how relations with suppliers are handled. This document is of fundamental importance because it is through effective and transparent management of its relationship with suppliers that the Portucel Group is able to fulfil its mission of sustainable development along the different stages in the supply chain.

The Group’s aim is for its principles, values and practices to be built into its suppliers’ business processes, in a mutually beneficial relationship. These values and practices reflect high ethical and moral standards, in order to safeguard the Group’s credibility and reputation, jointly with those of its suppliers. This document reasserts the Portucel Group’s commitment to best practices in corporate governance and shares with these stakeholders the values and principles to be applied to business partnerships.

In 2015, the Company drew up a Code of Ethics and Good Conduct for Suppliers, reaffirming its commitment to best practices in corporate governance, sharing with its suppliers the values and principles to be reflected in business partnerships.

7.1.2 Selecting suppliers

The process of purchasing materials and services is based on strategic portfolio management, in which suppliers are divided into specialised categories of materials and services.

Within the framework of the Portucel Group’s sustainability policy, this strategic management process attaches central importance to the sustainability of the supply chain. The process accordingly involves careful selection of the countries and/or regions of the world where the main sources of supply will be found, through sourcing exercises that take account of a range of political, social, legal and environmental factors.

The Group then scrutinises the suitability of potential suppliers in various regards, assessing their financial sustainability and any certifications they may hold. This process involves visits to suppliers’ facilities to learn about their production, logistical and organisational processes and also to validate fundamental aspects such as health and safety at work, working conditions and the absence of child labour, among other things. Close to 50 such visits were made in the reporting period. The next stage is to ratify suppliers for particular products, consulting the market and establishing contracts with duly approved suppliers.

An essential stage in the management of supplier relationships consists of performance assessments, which are conducted annually, and look at sustainability parameters such as social responsibility, thereby ensuring that they meet the Portucel Group’s requirements.
7.1.3 Supplier assessment\textsuperscript{22}

Aware of its responsibility for developing sustainable business partnerships, the Portucel Group has concentrated its efforts on assessing its suppliers, in order to ensure that their activities, in Portugal and around the world, contributed to minimising economic, social and economic impacts throughout the value chain.

The Group improved its supplier performance assessment system over the period, ensuring that good practices in the field of sustainability are implemented and maintained. Expansion of the supplier base into regions outside the Group’s traditional areas, such as in Asia and the United States, means that performance information needs to be systematically available so as to ensure effective management of the supply base and this information has to be conveyed more assertively to suppliers\textsuperscript{23}.

The Group’s total supplier base is very large, with more than 7,000 suppliers in a variety of fields, ranging from wood production to distribution of end products; however, this report does not include tissue operations\textsuperscript{24}.

25 G4-EN32, G4-EN33, G4-LA14, G4-LA15, G4-HR10, G4-SO9, G4-HR11

7.1.4 Engagement with suppliers

Suppliers’ Day is an event launched in 2015 with the primary aim of building stronger commercial ties with the Group’s suppliers, and each year to encourage debate on relevant issues. In line with the Portucel Group’s strategy, the central theme in 2015 was innovation, and a group of suppliers was selected to present proposals for innovation.

This event provided a renewed basis for closer collaboration between the Group and its suppliers, making it a crucial and fundamental step towards implementing the governance policy.

Supplier’s Day 2015

In line with one of the core elements of the Portucel Group’s governance policy, the Suppliers’ Day event was launched in 2015 with the slogan “Together we grow strong”. Seeking to build closer business ties between the Company and its strategic suppliers, this involved engaging with a significant stakeholder group: 123 representatives from 57 companies in the chemicals, packaging, petrochemicals and paper machine sectors.

Two new awards were launched at the event: “Best Supplier of the Year 2015” and “Innovation Award 2015”, designed to reward the performance of the Portucel Group’s suppliers during 2015.

7.1.5 Analysis of supplier sustainability risk\textsuperscript{25}

The sustainable management of the Portucel Group’s supply chain in 2015 involved a survey to assess the sustainability risk for each supplier category and to identify opportunities for improvement. This analysis dealt with the most relevant categories and encompassed approximately 1,600 suppliers.

22 G4-SO10
23 G4-13, G4-SO9
24 G4-12

The process involved setting criteria for assessing economic, environmental and social risks throughout the supply chain and resulted in identification of the most significant risks for each category of suppliers.
Most of the risks identified have to do with environmental issues, notably water consumption, energy consumption and air emissions. Half of the categories analysed present social risks related to issues of health and safety at work and also serious accidents. The only category which presented economic risks was that of energy suppliers, where important aspects such as financial stability or bribery and corruption were identified. Risks relating to sustainability were identified and typified, but only those concerning high grammage paper and wood logistics were assessed as critical, because of the scarcity of suppliers in the market.

This project also included assessing the various processes involved in management of the supply chain, including supplier qualification, selection, performance assessment and audits, in order to ensure that the Group’s sustainability requirements are reflected in the supply chain.

The drafting of a code of conduct for suppliers, defining good practices, requirements and minimum standards of sustainability, was one of the measures adopted by the Group in 2015, with a view to minimising these risks across the board, along the entirety of the supply chain.

7.1.6 Suppliers survey

A survey was conducted in 2015 of three important categories of Group suppliers, in the light of the associated risks: wood supply, paper logistics and chemicals. This survey dealt with a range of environmental and social issues, human rights, employment practices and social impact, and the response rate to questionnaires was 68%.

The suppliers included in this study represent:
1) In wood supply, 100% of all wood imported from outside the Iberian Peninsula and approximately 55% of wood sourced from Spain (including 95% of the wood imported from Galicia);
2) In paper logistics, 87% of all cargo transported;
3) In chemicals, 52% of total purchases in this category.

The sample of respondents in the survey shows that:
- 62% of suppliers have quality management systems certified under ISO 9001;
- 41% have environmental management systems certified under ISO 14001; and around one third under ISO 18001;
- 25% of the suppliers surveyed publish Sustainability Reports.

The main findings may be summarised as follows, for the companies that responded:
1. A majority of companies – more than 50% – have:
   - An approved policy for protecting and respecting the environment and a manager in charge of monitoring environmental performance;
   - Management initiatives to assess, prevent, mitigate and correct situations relating to water consumption, water and air emissions and the use of materials;
   - Staff training in environmental prevention, with environmental performance as one of the criteria for selecting suppliers;
   - An approved policy with ethics and good conduct commitments and a manager responsible for human rights issues and for compliance with ethical principles and good conduct;
   - Management initiatives to assess, prevent, mitigate and correct practices relating to child labour, discrimination, forced labour, the absence of freedom of association and collective bargaining, breach of indigenous rights, where applicable (more than 80% under the heading “security practices”).
   - An approved policy in the field of health and safety at work and a manager responsible for compliance with health and safety at work legislation;
   - Management initiatives to assess, prevent, mitigate and correct situations relating to employment practices, health and safety practices, incidents and abuses, or with regard to pay and salaries;
   - Audits to verify the conformity of ethics and good practice policies and commitments;
   - Supplier selection criteria requiring compliance with health and safety at work legislation.
2. More than 80% of companies have:
   - Management initiatives to assess, prevent, mitigate and correct waste production;
   - An approved policy in the field of health and safety at work and a manager responsible for compliance with health and safety at work legislation;
   - Management initiatives to assess, prevent, mitigate and correct situations relating to employment practices, health and safety practices, incidents and abuses, or with regard to pay and salaries;
   - Audits to verify the conformity of health and safety at work practices; and good conduct;
   - Audits to verify the conformity of health and safety at work practices; and good conduct.
3. Around half of the companies surveyed have local development programmes to support the local community and anti-corruption initiatives. The Portucel Group intends to continue and step up its supplier assessments in order to ensure that its value chain presents outstanding good practices in relation to sustainability.
7.2.2 Ensuring that wood purchases are legal

In order to comply with the European Union Timber Regulation (EUTR), the Portucel Group undertook an analysis and survey of risks relating to purchases of wood and/or wood products, and verified information relating to the following:

- The source of material, tracing the chain of supply from the operator back to the forest;
- Certification, validating the information from the certification body with information from the supplier, in particular concerning product certification and claims, and the validity of the certificate;
- Compliance with legislation in the country of extraction, confirmed by documentary evidence;
- That there are no disputes or sanctions imposed, and illegal logging is not prevalent.

An inspection programme is in place for certified wood purchased by the Portucel Group, involving two procedures:

- Documentary audits of suppliers, for low-risk supplies without FSC® and/or PEFC certification;
- Verification programme, in unspecified risk situations in FSC® risk categories, or in PEFC high-risk situations.

The Portucel Group has accepted a commitment, in its Management Systems Policy, to use only certified fibrous materials or controlled wood in its production processes. In view of the risks, all wood sourced from South America in 2014/2015 and used in producing pulp and paper was certified. Long fibre and recycled fibre pulp from Scandinavian EU nations was also certified. In 2015, the volume of certified wood supplied to plants represented approximately 42% of total wood.

Fibrous materials, mostly sourced from the Iberian Peninsula, was considered low risk as regards source and supply chain in accordance with FSC® and PEFC criteria, meaning that the type of inspections conducted consisted of documentary audits of uncertified suppliers.

7.3 TRANSPORT IN THE SUPPLY CHAIN

7.3.1 Multimodal transport

The Portucel Group is seeking to optimise its forestry logistics, which involve handling more than four million tons of wood and biomass each year.

To this end it stepped up its investment during the reporting period in long haul maritime transport, increasing the use of rail freight whenever possible and using road haulage for specialised purposes. In road transport, the Group used a smaller number of vehicles, giving priority to trucks prepared for a maximum gross weight of 60 tons and equipped with tracking devices in order to optimise routes and resources.

The Group believes that a multi-modal transport operation, with increasing coordination between road, rail and maritime components, will result in significant environmental gains, reduced consumption and emissions, improved energy efficiency in processes and an effective response to the growing challenge of a diversifying supply basis, as well as reducing mileage in road haulage.
7.3.2 The maritime alternative

Over the past decade, the Portucel Group has pursued a strategy of diversifying its means of transport to European destinations, boosting the use of maritime transport and seeking to maximise rail freight between mills and ports. In the reporting period, the Group increased the volume of cargo shipped by sea, and stepped up the use of local ports close to its production facilities (Figueira da Foz and Setúbal). These changes mean that maritime shipping accounted approximately 45% of primary logistics for the Group’s paper in Europe, and 64% worldwide. Where maritime shipping is not competitive for regions located far from the European coast, the Group continues to prefer multimodal and rail solutions from Portugal to central Europe, so as to improve the sustainability of its logistical model, complementing the use of road haulage. Despite the existence of barriers to the supply of rail services, it remains the Group’s objective to maximise the use of this form of transport to central European destinations.

In outbound logistics (paper and pulp) the Group handled close to 1.8 million tons in 2015 in primary transport between its mills and its clients, to some 120 countries over five continents, and more than 4,000 individual destinations. In addition to this volume of primary transport, the Group also handled around 400 thousand tons in secondary transport, from the logistics hubs it uses in Europe and the United States to its clients.

In paper logistics in Europe, maritime transport accounted for approximately 45%, and road haulage for 55%; multimodal transport represents a negligible share, despite being used by the Group. Exports shipped by sea as containerised cargo went through five of Portugal’s six main ports. However, the main ports used were Figueira da Foz and Setúbal, where the Group accounted for approximately 100% and 45% of all cargo exported through these ports in 2015. Significantly, containerised exports through these ports increased from 38% in 2012 to 52% in 2015.

The total volume of containerised cargo handled by the Group positions it as the largest exporter of containerised cargo in Portugal, and probably in the Iberian Peninsula, accounting, in 2015, for around 7% of total containerised cargo and approximately 6% of all containerised and conventional cargo exported through Portuguese ports. The ports most heavily used by the Group are those of Aveiro, Figueira da Foz and Setúbal, due to their proximity to our industrial units, and also the port of Sines.

Growth in containerised cargo handled at Portuguese ports in recent years has owed much to the operations of the Portucel Group, as it has encouraged operators to run new regular short sea shipping routes, especially to the ports of Setúbal and Figueira. By anchoring these services at the ports, the Group has boosted the ability to compete with other exporters and importers in the same regions.

Pulp operations mostly use conventional maritime transport, and approximately 85% of exports in 2015 were shipped by sea, and 15% by road. Exports shipped by sea were dispatched through the Port of Aveiro, which is closest to the Cacia mill, which produces pulp for sale on the market.

Since 1 January 2015, as a result of introduction by the International Maritime Organization (IMO) of the Sulphur Emission Control Area (SECA) in northern Europe, the mandatory use by ships of low sulphur fuel has helped to cut sulphur oxide emissions.

7.3.3 Energy consumption and emissions outside the organisation

The energy consumption of the Group’s suppliers and the associated emissions contribute to the environmental impact of the products sold.

Wood supply logistics and paper dispatch logistics also represent energy consumption and emissions outside the Group, measurement of which is relevant to the Portucel Group. Methods have therefore been developed internally to estimate final figures for volumes transported and the respective distances, and to convert this into energy consumption and emissions of CO₂.

<table>
<thead>
<tr>
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<th>2014</th>
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<tbody>
<tr>
<td>Energy consumption (GJ)</td>
<td>2,035,599</td>
<td>1,735,592</td>
</tr>
<tr>
<td>CO₂ emissions (t CO₂e)</td>
<td>122,625</td>
<td>109,715</td>
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FORESTRY
Preserving our most valuable asset
“The Portucel Group believes that responsibly managed forestry plantations and rational use of forest-based products help avert deforestation and make a crucial contribution to the global sustainability of the planet.”
## 8.1 MANAGING FORESTS SUSTAINABLY

### 8.1.1 Renew-Protect-Conserve

The Portucel Group’s business model is based on sustainable forestry management of its plantations, conciliating environmental, social and economic concerns. Responsibly managed forestry plantations and rational use of forest-based products help avert deforestation and make a crucial contribution to the global sustainability of the planet.

The Group’s plantations of eucalyptus and other forestry and ornamental species retain carbon, help to reduce greenhouse gases in the atmosphere and so help to mitigate the effects of climate change.

The Portucel Group is one of the driving forces behind the development, renewal and improvement of Portugal’s woodlands, which occupy approximately 35.4% of all land in the country and represent a sector accounting for more than 9% of the country’s exports of goods.

The forests planted and managed by the Portucel Group are a significant source of wealth for Portugal, generating a positive economic impact, directly and indirectly. The value chain involves stakeholders in local communities and at regional level, from producers through to suppliers, taking in a wide array of associated activities, which can include nursery operations, general services and transport of forestry products.

Eucalyptus wood is the fundamental raw material for the pulp production process. Between 70 and 75% of supplies are purchased from suppliers in the Iberian market and approximately 14% from its own holdings. The supply of wood directly involves more than 300 small and medium-sized companies, many of them family concerns, engaged in forestry and haulage. The area of eucalyptus felled is spread throughout Portuguese territory and also Galicia, Cantabria and Andalusia, with a direct impact on the regional economy and involving more than 20,000 small forestry landowners.

Areas with eucalyptus plantations offer the potential for growth in a variety of different business areas which complement the plantations and which help to conserve and develop the countryside and contribute to management of diversity in agro-forestry holdings.

Complementary businesses operated by the Group include reclamation of forestry biomass, producing cork (26 thousand arrobas), wine (50 thousand litres), softwood (6 thousand tons), bee-keeping, game and also exports of eucalyptus branches for decorative use.

### 8.2 RENEWING THE FOREST

#### 8.2.1 Our performance

The Group operates an active policy of renewing and improving Portugal’s woodlands, and its nurseries produce forestry and ornamental plants for the Group’s own use and for the domestic and export markets. The Group today boasts one of Europe’s most modern and largest nurseries for producing certified forest plants, with annual production capacity for 12 million plants of different species, including 6 million Eucalyptus globulus clones.

Start-up of the largest and most up-to-date nursery facility for cloned plants in Africa, with annual production capacity in excess of 12 million plants, as part of the Group’s international expansion project in Mozambique.

One of the Group’s major achievements in 2015 was the completion of the m³ project, with a structural impact on its forestry operations, strategically refocussing the management and scale of its assets and output from its own forests, as well as its approach to the wood market.

#### 8.2.2 Highlights in 2015

- Forest certification
  - From 2005 to 2015, the Group’s certified forests in mainland Portugal increased from 0 to 100% (FSC® and PEFC™). In this way the Group contributes to renewing forests, and make a crucial contribution to the global sustainability of the planet.
  - Complementary businesses operated by the Group include reclamation of forestry biomass, producing cork (26 thousand arrobas), wine (50 thousand litres), softwood (6 thousand tons), bee-keeping, game and also exports of eucalyptus branches for decorative use.

- Carbon Retention
  - Forests managed by the Group are estimated to have retained carbon equivalent to 1.7 million tons of CO₂ in 2015.

- Production of Plants
  - The Group’s nurseries produce more than 30 different forestry species, 150 ornamental species and shrubs, as well as fruit trees, including 5 varieties of olive tree and 4 varieties of fig tree, with total output each year of 12 million plants.

The forests planted and managed by the Portucel Group are a significant source of wealth for Portugal, generating a positive economic impact, directly and indirectly. The value chain involves stakeholders in local communities and at regional level, from producers through to suppliers, taking in a wide array of associated activities, which can include nursery operations, general services and transport of forestry products. Eucalyptus wood is the fundamental raw material for the pulp production process. Between 70 and 75% of supplies are purchased from suppliers in the Iberian market and approximately 14% from its own holdings. The supply of wood directly involves more than 300 small and medium-sized companies, many of them family concerns, engaged in forestry and haulage. The area of eucalyptus felled is spread throughout Portuguese territory and also Galicia, Cantabria and Andalusia, with a direct impact on the regional economy and involving more than 20,000 small forestry landowners.

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8.3 PROTECTING THE FOREST

8.3.1 Our performance

In 2014/2015, the Group invested approximately 3 million euros each year in preventing and helping to fight wildfires, in what was by far the largest private sector contribution to forestry protection in Portugal. The Group’s efforts in this field benefit the country’s woodlands in general, as more than 85% of the work by Afocelca, the pulp and paper industry organization to which the Group is the major contributor, was on land owned by third parties, providing valuable assistance to the Civil Protection Service.

Continuing to focus its policy on prevention, around 60% of this investment went to activities in this area, which in 2015 included: fuel management (10,000 ha); conservation of 5,000 km of paths, fire breaks and water points; controlled burning in pine woods, scrub land and eucalyptus forests; fuel management in critical areas; raising awareness of target populations; vocational training; pre-positioning machinery; active work on 40 Municipal Forest Fire Defence Committees, management and application of know-how and R&D and collaboration with a range of actors: Institute of Nature Conservation and Forests, civil protection authorities, police forces, fire services, local government, producers organisations and forestry producers.

Support for private forestry producers with improved species

The Group’s nurseries in Portugal currently produce six million Eucalyptus globulus clones a year, improved plants which were given the highest grade in the process of certification by the ICNF – Instituto da Conservação da Natureza e das Florestas (Institute of Nature Conservation and Forests), and which our nurseries have pioneered in the country. A substantial proportion of this output is sold on favourable terms to forest landowners and the respective associations and federations. This initiative promotes the use of the best genetic material as a way of encouraging producers to adopt best practices and improve yields in new eucalyptus plantations. This in turn enables the Group to create closer ties with private forestry producers, through investment which, in addition to the financial component, involves significant technical efforts.

SUSTAINABILITY FORUM: THE IMPORTANCE OF PREVENTION

The topic of protecting woodlands against wildfires was widely debated with several stakeholders of importance to the Company at the Group’s 1st Sustainability Forum session, held in September 2015. 85% of incidents originate in urban-rural fringes and around 2/3 are the result of negligence. This points to the importance of learning more about this phenomenon, of raising public awareness of the need for responsible behaviour and of promoting sustainable forestry management.

Speakers at the Forum stressed the importance of Portugal investing in prevention and designing a national strategy to reduce the risk of forest fires. Richard de Neufville (Professor at MIT – Massachusetts Institute of Technology), Murteira Nabão (Chairman of Movimento ECO – Companies Against Fires) and Tiago Oliveira (the Group’s Forestry Protection Manager) presented the scientific perspective, the civil society view and the perspective of the Portucel Group on the important issue of Forest Fires, respectively.

The Group completed its participation in the Fire Engine project (Flexible Design of Forest Fire Management Systems), under a programme run by Massachusetts Institute of Technology (MIT) Portugal and three Portuguese universities, the Faculty of Engineering of the University of Porto, the Higher Institute of Agronomy and the University of Trás-os-Montes and the Upper Douro, enhancing capabilities in fire risk management by using models in the process of being transferred to the Group’s operational departments and other leading actors in the national fire prevention/fire-fighting system.
SUSTAINABILITY REPORT 2014/2015

8.4 CONSERVING BIODIVERSITY

8.4.1 Key Facts

Biodiversity conservation is a priority area in the Group’s forestry management model, which involves a strategy for conserving wildlife and socio-cultural heritage in the holdings under its management.

This model is based on:

- Assessing the values present in the areas under our management;
- Mapping of Zones with interest for Conservation (ZiC);
- Assessment of the potential impact of operations;
- Designing and applying mitigation measures.

A further contribution is made by a monitoring programme and Conservation Action Plans (CAP).

Safe Forest Project

In 2014 and 2015, the Group organised the Safe Forest campaign, in partnership with the National Firefighting Academy, seeking to raise awareness in rural areas of the need to act preventively to reduce the risk of forest fires.

Movimento ECO

The Portucel Group is a member of Movimento ECO – Companies against Fires (www.icnf.pt/portal/age/mov-eco), an organization which offers companies a means of exercising their responsibilities by running a campaign encouraging the general public to adopt fire safety habits, helping to change patterns of behaviour, such as the high-risk practices of lighting bonfires, smoking in forests and setting off fireworks.

High Conservation Value Areas – methodology developed with external specialists

A particularly relevant part of the ZiC consists of the High Conservation Value Areas (HCVA), an exclusive FSC concept which points to the presence of environmental, social and cultural values of an exceptional kind. In view of the scale and wide dispersal of the holdings managed by the Company, the approach initially adopted was developed in a project under the World Wide Fund for Nature (WWF), Mediterraneaan Programme, and was subsequently improved with support from external specialists. A number of HCVA at the local scale have been established around rare, threatened or endangered ecosystems, critical areas for protecting river basins, for soil conservation and for the traditional cultural identity of local communities.
The Group’s Forest Management Unit manages land corresponding to approximately 120 thousand hectares spread between 167 Portuguese municipalities, 164 of them in mainland Portugal. This includes areas covered by the Natura 2000 Network and the National Network of Protected Areas (NNPA). The Group continued over the period to work actively with the relevant authorities, to promote the conservation of forest resources and to create value and gain the recognition of society in general and the other stakeholders.

8.4.2 Our performance

The Group’s biodiversity strategy requires a survey to be conducted of the biodiversity on each holding, in order to plan measures for preventing and mitigating the potential negative impacts of operations, with a view to achieving effective protection.

As a result of biodiversity assessments, information was gathered in 2014 and 2015 on the presence and number of species listed on the IUCN (International Union for Conservation of Nature) Red List and on the National Species Conservation List. No changes were detected in relation to the previous reporting period. The critically endangered species are birds: the black vulture (Aegypius monachus), imperial eagle (Aquila adalberti) and roller (Coracias garrulus).

Forest management practice takes into account the need for production to be compatible with conserving not only endangered species, but also others. The following are example of measures adopted for this purpose:

- Conservation of wetlands and demarcation of a buffer zone, where certain operations, such as planting eucalyptus and tilling the soil, are not permitted. Steps are also taken to avoid movement by heavy machinery and to preserve areas of vegetation and natural habitats where these species can flourish. In some cases, these sites are restored in order to improve their state of conservation and provide conditions in which the species can be preserved;

- In the specific case of nesting sites within or adjoining the holdings managed, two particular measures are applied, one relating to the timing of operations and, when necessary, another involving physical intervention. Depending on the species in question, arrangements are made to provide adequate conditions at critical phases of the reproduction cycle, by setting a calendar with restricted periods for forestry operations within a protection area. An example of physical intervention is when a nest is detected in a eucalyptus or pine tree, within a forestry production area. In this case, depending on the particular species and after consulting specialists, the tree hosting the nest is left intact and an area demarcated around it, which is left intact and treated as a conservation zone.

The areas covered by the NNPA and the Natura Network include a number of Protected Areas, Classified Sites and Special Protection Zones, representing more than 40% of the land in question and containing habitats in various states of conservation (degraded, evolutive, favourable and climacic).

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A significant proportion of the land managed by the Portucel Group is located in or adjacent to protected areas or areas with a high biodiversity index. This has required special care in assessing the presence of conservation values and their preservation and a search for complimentary information to support management measures. In the classified areas where the Group has assets (National Network of Protected Areas and the Natura 2000 Network), forests are managed in line with the aims set down in the Natura 2000 Network Sector Plan and the Protected Areas Regulations for protecting species and habitats. In addition, because these sites are those which potentially contains the species and habitats most relevant to conservation, the Group makes greater efforts to monitor and restore biodiversity.

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8 priority habitats, such as temporary Mediterranean wetlands, are also taken to avoid movement by heavy machinery and to preserve areas of vegetation and natural habitats where these species can flourish. In some cases, these sites are restored in order to improve their state of conservation and provide conditions in which the species can be preserved;

- In the specific case of nesting sites within or adjoining the holdings managed, two particular measures are applied, one relating to the timing of operations and, when necessary, another involving physical intervention. Depending on the species in question, arrangements are made to provide adequate conditions at critical phases of the reproduction cycle, by setting a calendar with restricted periods for forestry operations within a protection area. An example of physical intervention is when a nest is detected in a eucalyptus or pine tree, within a forestry production area. In this case, depending on the particular species and after consulting specialists, the tree hosting the nest is left intact and an area demarcated around it, which is left intact and treated as a conservation zone.

The 40 classified habitats, existing individually or overlapping in the National Network of Protected Areas (NNPA) or in the Natura 2000 Network (N2000N) include 8 priority habitats, such as temporary Mediterranean wetlands, endemic juniper forests and alluvial forests of alders and oleaceae. Other habitats identified and covering a significant part of the Group’s land include forests of deciduous oaks, cork oaks and Mediterranean oaks, and the habitats making up riverbank gallery forests, dominated by willows and poplars.
8.5 FOREST CERTIFICATION, OUR SEAL

The Group regards forest certification as a way of consolidating its position in an international market which makes increasing demands in relation to the sourcing of raw materials for forest-based products, and also as a means of responding to the expectations of society in general, and of the consumers of its products, in particular.

The Group’s forestry model for the woodlands holdings under its management in Portugal, covering approximately 120 thousand hectares, is certified under the two most widely recognised international certification schemes: the Forest Stewardship Council (FSC®) and the Programme for the Endorsement of Forest Certification schemes (PEFC).

Highlights 2015

1 Implementation of INFLOR, a forest management system, in operations in Portugal. A simplified version is being implemented by Portucel Mocambique. This system allows for an integrated approach to forestry management, leading to improved efficiency in the Group’s forestry management;

2 Renewal of PEFC forestry management certification and maintenance of FSC® certification. The Group’s certification encompasses products such as eucalyptus wood for producing pulp and paper (the Group’s main area of output), and cork, providing recognition from external independent bodies of the responsible management of its woodlands;

3 Evolution of the Group’s certified area: in little more than 5 years this area grew by more than 20 thousand hectares, which includes all its assets in mainland Portugal and corresponds to a very significant portion of the country’s certified woodlands (33.1% under the FSC® and 47.5% under the PEFC)31.

Major initiatives

The Portucel Group has sought to play an active role in encouraging and promoting forestry certification, by providing information and through membership of Portuguese and international organisations working in this field. Major initiatives during the reporting period included:

Membership of FSC® International: the Group stepped up its involvement with this organisation, by becoming an international member of the FSC® Northern Economic Chamber.

Visit by the Board of Directors of FSC® International: the Portucel Group was one of the hosts for the field trip to Portugal by the FSC® Board of Directors.

Board of Directors of FSC® International visits Portugal in 2014

The Portucel Group was one of the hosts for the field trip to one of its estates by the FSC® Board of Directors. The Company was delighted to welcome members of the current Board of Directors and secretary-general of FSC® International and members of the management board of FSC® Portugal and other local stakeholders and to explain to them the importance of the Portuguese pulp and paper sector in general, and the Company in particular, and its engagement with the FSC® and with challenges in the field of certification. The field trip took the visitors to the Group’s estates, giving them a first-hand experience of different aspects of the Group responsible forestry management and its research and development activities.

31 Sources: official statistics published by FSC® International and PEFC Portugal (available in December 2015)
Participation in the FSC® General Assembly (GA), in Seville: the Group was represented at the FSC® GA at the highest level, taking part in a number of events, including the CEO panel discussion and a presentation on plantations. The Group also organised the field trip to Portugal, in partnership with the WWF, involving around 40 stakeholders from around the world.

Collaboration with AIPF on the Certifica+ Project: through its membership of Calpa, the Group has worked with organisations representing different forestry sectors, such as AIPF - Associação para a Competitividade da Indústria da Filarm Florestal (Association for the Competitiveness of the Forestry Sector), on the Certifica+ Project, designed to promote certification.

Measures to promote certification: the Group has expanded its programme of trainings for technical staff from forestry landowners’ associations, in order to transfer forestry technology and know-how and help expand the certified area owned by private producers.
Improving efficiency in our process
“Environmental protection is part of our commitment to society. The Portucel Group is ready to confront the new challenges facing the environmental sector in the next 10 years and drew up an Environmental Strategy Plan during the reporting period.”
9.1 THE PROCESS

FORESTRY

Forestry operations in the industry encompass everything from research through to logging, including research, selecting seeds and mother plants, preparing clones, nurseries, soil preparation, planting, fertilising, etc. through to felling and logging, where transport and wood preparation begins.

Eucalyptus globulus

Forest plants at Viveiros Aliança, the Group’s nurseries, where the main species produced is Eucalyptus globulus.

Research

Boosting the forest economy’s ability to compete on a sustainable basis, by developing genetic materials and forestry techniques that help increase yields and improve the properties of the wood produced, all at lower costs and with less environmental impact.

PRODUCING EUCALYPTUS GLOBULUS saplings at the Group’s nurseries

Eucalyptus globulus is a large tree and can grow to a height of 40 to 50 metres, or even more in mature specimens. The trunk is tall and straight when the tree grows in a plantation. The bark is smooth, and grey or brown in colour. An evergreen, its leaves differ in shape and appearance between young and mature trees. The juvenile leaves are borne in opposite pairs and are a bluish green, oval to round in shape, and occasionally with no petiole. The mature leaves are narrow and sickle-shaped, they are arranged alternately, with long petiole, and bright green in colour.

In Portugal, the species prefers coastal and low-lying regions, at below 700 metres, as well as temperate damp climates. It is tolerant of all soil types, except limestone soils.

Eucalyptus globulus allows us to use less wood to manufacture the same quantity of paper: up to 46% less than certain conifers, such as Cupressus sempervirens or Pinus sylvestris.

TREATMENT AND TRANSPORT OF EUCALYPTUS TO THE FOREST
In order to produce pulp, the cellulose fibres in the wood have to be separated from the lignin in the wood structure, in the cooking process, and then rid of the residual lignin in the bleaching process. They are retained in a fibrous suspension which is sent directly for processing into paper, or else dried, at the drying machine, ready for dispatch to clients.
**PAPERMAKING**

After being prepared, the pulp slurry enters the paper machine where it passes through three main sections before coming out as paper wound onto jumbo reels.

**PULP PREPARATION**
Before the bleached pulp (slurry) is piped into the paper machine, it undergoes a refining process designed to strengthen bonding between the fibres, along with other additives, in order to improve the strength and optical properties of the pulp. At this stage, the pulp is ready for processing into paper and is then pumped into the paper machine through the headbox.

**SHEET FORMATION**
Transforming the slurry into a continuous sheet

In the wet section, the treated and diluted pulp is pumped into the headbox from where it is fed smoothly and at a steady speed onto a continuous wire loop. Once the fibre slurry is laid on the wire, it starts to be processed into a continuous sheet by removing the water through drainage (gravity), combined with suction and vacuum processes. By the end of this section, moisture is reduced to 80 to 85%.

**DRYING SECTION**
Evaporation of humidity from paper sheet due to the action of heat

Heat from steam cylinders drive out most of the residual moisture in the paper sheet. At an advanced stage of the drying process, a starch solution is applied to the sheet, to enhance finish and printability, in what is called the Symsizer.

**PRESS SECTION**
Extraction of water through compression

The second section of the machine is the press section, where the de-watering process continues. This is done by compression, often combined with vacuum processes. After the presses, no more water can be removed from the sheet by mechanical means.

**REELER**
The paper sheet is wound onto a large “jumbo” reel with the width of the machine.

**CONVERTING THE PAPER**

In order to dispatch the paper on the Jumbo Reels to clients, it has to be processed onto smaller rolls or into reams of cut sheets, packaged and ready for distribution.

**CURIOUS FACTS ABOUT PAPER MANUFACTURE**

Paper is:
- Natural, essential, safe, renewable, recyclable, biodegradable and sustainable.
- A familiar, user-friendly material, often used in countless applications.
- Obtained from a renewable raw material – wood.

**SHEET CUTTING**

In the converting, the paper rolls are cut into large format sheets (for offset use) in the printing industry, or into smaller sheets (A4 and A3), for home or office use.

**REAMING WRAPPING**

Standard format or customized sheets are packaged in reams.

**PACKAGING**

Reams are packaged and palleted ready for dispatch.

**DISPATCH**

The Company’s products are sent round the world, by sea, rail and road.
9.2 ENVIRONMENTAL PROTECTION AT THE HEART OF OPERATIONS

9.2.1 What we have done

The Environmental Strategy Plan (ESP), drawn up in the reporting period (2014/2015), will be one of the Group’s main tools for anticipating and responding to the new challenges posed in the environmental field over the next 10 years, in particular as a result of the transposition of the European Industrial Emissions Directive, publication of the new versions of BREF Pulp & Paper, identifying the best available techniques for producing pulp, paper and cardboard, and also the equivalent document for Large Combustion Plants, dealing with a range of relevant issues.

The ESP envisages measures to optimise the biomass boilers at the industrial facilities in Cacia, Figueira da Foz and Setúbal, improving management of non-condensable gases at the Figueira da Foz site, design of new solutions to cut phosphorus emissions in water effluents and measures to achieve reductions in water use. The plan also provides for research into odours and odour perception, and the allocation of resources and responsibilities for managing and reducing the costs associated with solid industrial waste.

The new Production System programme was launched in late 2015 to shape the working culture across the Group, in industrial and non-industrial areas, in Cacia, Figueira da Foz, Vila Velha da Ródão and Setúbal. In the long term, this will also be extended to Portucel Moçambique and the Group’s operation in the United States (Colombo Energy). The Production System is based on improving communication in all areas and on teamwork, with teams that combine staff at different levels and with different areas of expertise.

5S (+1) Project

This project has been running since 2011 at the Cacia, Figueira da Foz and Setúbal sites. The project adopted Lean Thinking, a long-term management philosophy, centred essentially on people. The approach uses “systematic and standardised processes” and problem solving to achieve continuous improvement and waste reduction.

The concept was invented in Japan, in the 1950s, and the name comes from five Japanese words (and their translations) starting in S: Seiri (Sort), Seiton (Straighten), Seiso (Shine), Seiketsu (Standardize) e Shitsuke (Self-Discipline); (+1) Safety.

Isabel Fernandes, process engineer – Paper Production, Setúbal

“5S (+1) has had a positive impact at all levels. Wherever the 5S’s have been implemented, we have seen people make progress and get involved, because greater teamwork is required. The main improvements have been in organizing and identifying equipment, materials and areas.”

9.3 WATER MANAGEMENT

9.3.1 Key Facts

More than 85% of all water intake is returned to the environment, complying with the discharge quality standards for effluents established in our environmental licenses. The remaining water is discharged into the atmosphere in the form of steam.

9.3.2 Our performance

A range of measures were implemented in 2014/2015 in relation to project to reduce water use in industrial processes. At the Cacia and Setúbal sites, washing facilities have been replaced by presses which reduced the washing liquid used in bleaching; this is more effective, due to operating with “high consistency”.

Consumption has tended to stabilise at low levels, except at the Cacia plant in 2015, due to implementation of an alteration which resulted in temporary difficulty in stabilising production, thereby increasing specific consumption.

9.4 EFFICIENT ENERGY MANAGEMENT, LOW CARBON ECONOMY

9.4.1 Key Facts

The Portucel Group follows a development strategy based on sustainable management throughout the value chain. In addition to the contribution made by forestry to sequestering and retaining carbon, the Group is an active player in the low-carbon economy thanks to a business model based on use of renewable energy sources and investment in eco-efficient technologies.

This commitment is reflected in the message from the Chief Executive Officer, Diogo da Silveira, published in the 2015 Sustainability Annual: “Contributing to a low-carbon economy is what we do naturally in our business. Every year, we sequester CO₂ from the atmosphere, through the forests we plant and manage on a sustainable basis. But our positive impact goes further; as we avoid emitting CO₂ from our industrial plants, thanks to investment in low-carbon technologies.”
9.4.1.1 Commitment to renewable energy

The Portucel Group stepped up investment in low carbon technologies over the reporting period. This investment is designed to replace fossil fuels with renewable fuels, and especially with the use of forestry biomass, making it possible to reduce emissions of fossil CO₂ and at the same time to cut energy consumption.

In the past 8 years, the Group has invested around 200 million euros in energy, focussing in particular on renewable energy and using more efficient and environmentally-friendly technologies. It has built two biomass power stations and made significant adjustments to three cogeneration plants, which use forest biomass and timber by-products resulting from the pulp manufacturing process. Overall, 70% of the primary energy used is from renewable sources.

The Portucel Group is currently the leading Portuguese producer of “green energy”, from biomass, and accounts for around 50% of the country’s power output from this national resource. The measures adopted have had a positive impact not just on the Group’s energy dependency, but also on the country’s dependency on imported fossil fuels.

Biomass continues to represent the main source of energy used, followed by natural gas and then by fuel oil, use of which has been decreasing. However, there was a slight increase in consumption of fuel oil in 2015, particularly at the Cacia Industrial Complex, due to process issues, and at the Figueira da Foz Industrial Complex, for reasons of profitability relating to the combined-cycle natural gas units.

9.4.1.2 Our sources

Cogeneration is the main form of energy production at the Group’s industrial plants. This consists of combined power and heat production, in order to improve the efficiency of the overall energy production process.

It is estimated that these power stations and cogeneration plants, using biomass, will make it possible to avoid CO₂ emissions of more than 460 thousand tonnes/year in terms of the national carbon balance.

The substitution of fuel oil by natural gas is another example of investment in low-carbon technologies. In the course of the period, the Group implemented a project for converting the lime kilns to natural gas at the three industrial complexes producing pulp and paper. As a result of this investment, the estimated annual reduction in CO₂ emissions is approximately 22,000 tonnes, corresponding to a monetary value of 176,000 euros/year for a CO₂ price of 8 euros/ton.
9.4.2 Our performance

Thermal energy is the main form of energy used, with consumption considerably higher than for power. This explains the importance of the Group’s cogeneration plants, which generate power for internal consumption.

The quest for improved levels of energy efficiency is one of the fundamental objectives in the field of operational efficiency, and the Portucel Group has accordingly invested continuously in rationalizing energy use in the production process. This investment, reflected in the energy rationalization plans, which include measures to improve energy efficiency in each industrial unit, allowed the Group to cut its overall energy consumption in the period by at least 68,537 GJ. This efficiency is reflected directly in a reduction in atmospheric CO₂ emissions, helping to mitigate the effects of climate change.

The main source of CO₂ emissions is power generation, in particular the two combined-cycle natural gas cogeneration plants, which account for approximately 70% of the Group’s CO₂ emissions. In 2014/2015, there was no significant change in CO₂ emissions per ton of output in relation to the previous reporting period.

9.4.3 Highlights

1. The Energy Balance Optimisation project ran, involving investment of approximately 500 thousand euros, which resulted in savings of more than 3 million euros.

2. Implementation of energy efficiency measures: Optimisation of maximum consumption of natural gas, modulation and optimisation of thermal and electrical energy production, as well as cutting power consumption for lighting and electrical engines. For example, forecasts show that the measures resulting from the project to replace fuel oil with natural gas in the lime kilns at the Cajia Industrial Complex may achieve an annual reduction of approximately 8,350 tonnes in direct emissions of CO₂.
9.5 AIR EMISSIONS MANAGEMENT

9.5.1 Key Facts

Industrial processes at the Group’s units produce air emissions: particles, NOx and SO2, in addition to the greenhouse gases mentioned above, resulting essentially from energy production.

9.5.2 Our performance

Despite efforts in implementing measures to minimise the environmental impacts of its operations, the findings of emissions monitoring point to a slight increase in concentrations of SOx and particles over the past two years. NOx concentrations have nonetheless held steady, with a tendency to diminish. These figures reflect changes in the operating conditions of certain burning facilities as well as changes in the fuels consumed in the reporting period, in particular the use of fuel oil and variability in biomass characteristics.

9.5.3 Highlights

1. Installation of a single air emissions information processing system for all Portucel Group facilities;
2. The investment made at the Cacia Industrial Complex, as part of efforts to optimise the plant, making it possible to collect diluted non-condensable gases, i.e. high volume, low concentration gases (also known as weak odorous gases), and also changes to the collection system for concentrated non-condensable gases or strong odorous gases;
3. At the Figueira da Foz Industrial Complex, emissions of sulphur compounds were reduced from the lime, in this case through investment in a gas scrubber, making it possible to reduce the sulphur content in the strong odorous gases before they are used as fuel in the kiln, as well as allowing them to be reclaimed for the production process.

CACIA: REDUCTION IN SULPHUR EMISSIONS AND ODOURS

The optimisation process at this industrial unit comprised:

- Installation of a system to collect weak odorous gases and conduct them to the recovery boiler where they are treated;
- Directing strong odorous gases to the recovery boiler, making it possible to reclaim their heat potential and most of the sulphur compounds they contain. This is a crucial aspect in improving process efficiency and consequently reducing sulphur emissions;
- Installation of a new lime kiln which helps to achieve standard-setting performance in air emissions.

The Group invested 5 million euros in reducing odours. This project has an important social component, as the significant reduction in odour from the industrial operations at the Cacia plant is a matter to which surrounding communities attach great importance. The changes have helped to improve the Portucel Group’s image as a good citizen.
9.6 EFFICIENT MANAGEMENT OF RAW AND SUBSIDIARY MATERIALS

9.6.1 Key Facts

9.6.1.1 Increasingly renewable materials
The production processes used at the various industrial units consume renewable and non-renewable materials. Renewable materials account for approximately 90% of consumption and consist of wood, starch, long fibre and recycled fibre, and cardboard and wood for packaging.

<table>
<thead>
<tr>
<th>CONSUMPTION OF RENEWABLE AND NON-RENEWABLE MATERIALS</th>
<th>2014</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Renewable materials</td>
<td>90%</td>
<td>89.6%</td>
</tr>
<tr>
<td>Non-renewable materials</td>
<td>10%</td>
<td>10.4%</td>
</tr>
</tbody>
</table>

9.6.2 Our performance
1. At the Setúbal and Cacia complexes, installation of washing presses in the bleaching section, improving washing performance between stages, making it possible to reduce consumption of chemicals (chlorine dioxide and sodium hydroxide) thanks to their being used more efficiently in the process;

9.7 WASTE MANAGEMENT

9.7.1 Key Facts
Comprehensive optimisation of industrial processes made it possible to reduce specific production of waste. At the same time, waste recycling and reclamation remains at high levels thanks to the use of waste, such as primary sludges, for composting or producing energy. These sludges, classified as biomass, are used as a renewable fuel in the biomass boilers.

9.7.2 Our performance
Waste production was lower in 2014/2015 than in the previous reporting period, due to implementation of a number of measures to reduce waste or else reuse and reclaim it in industrial processes. These measures have helped to reduce consumption of resources, environmental impacts and management costs deriving from a reduction in transport for delivery to licensed operators.

9.7.3 Highlights
A series of measures relating to the feeding of the lime kiln at the Figueira da Foz Industrial Complex made it possible to achieve a significant reduction in the quantity of waste (lime/soda ash sludges) produced at this facility.

Hazardous waste is produced mainly as a result of maintenance operations, accounting for less than 0.2% of total waste. All hazardous waste is forwarded for reclamation, regeneration or disposal by properly licensed operators.

The Group’s industrial units are today a model of waste management, having recorded waste reclamation rates of 86% and 81%, respectively in 2014 and 2015. Waste has been reclaimed for a range of uses, including in agriculture and forestry, energy production and production of compost.

<table>
<thead>
<tr>
<th>TOTAL OF WASTE PER TONNE OF PRODUCT (kg/t)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
</tr>
<tr>
<td>111</td>
</tr>
</tbody>
</table>
9.9 CONCERN FOR PRODUCT USE

9.9.1 Regulations, Labelling and Responsible Communication

The Portucel Group complies with Portuguese and European legislation applying to the sector, in particular Community Regulation 995/2010, better known as EUTR (European Union Timber Regulation), which prohibits operators from placing illegally harvested timber and products derived from illegal timber on the EU market.

The Group has also adopted Directive (EU) 453/2010, of 20 May, publishing a technical safety sheet for each product detailing its main features, applications and recommendations for use and recycling.

With regard to recycling and potential reductions in consumption of packaging materials, the Group also complies with European Standards EN 13427, EN 13428, EN 13429 and EN 13430 drafted to respond to Community Directive 1994/62/EC which regulates packaging and packaging waste. In this field, the Group has a contract with Sociedade Ponto Verde (Green Dot Society) for all its own brands sold on the domestic market, paying this company a fee as the national operator responsible for managing packaging waste.

The Portucel Group also complies with all the requirements of Community Regulation 1907/2006 (REACH Regulation, concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals) in the production and use of chemicals and their impact on human health and the environment.

All paper manufactured complies with the standards of ISO 9706 as regards life expectancy and archival life span.

All the Group’s facilities have environmental licenses, issued by the authority responsible for environmental issues, in keeping with the strictest European legislation, geared to the Best Available Techniques. This guarantees compliance with all the legal requirements applicable to paper products, including those relating to the end of life of these products.

9.8 WATER EFFLUENTS MANAGEMENT

9.8.1 Key Facts

All water effluents produced at the Portucel Group’s industrial units are discharged into the marine environment through underwater diffusers, after primary and secondary treatment of activated sludge, with final characteristics that comply with the legal requirements. The Cacia and Figueira da Foz complexes discharge their effluents at sea and the Setúbal Industrial Complex in the Sado estuary.

9.8.2 Our performance

In terms of volume, the figures point to no significant change in the effluents discharged into water: 16.7 m³/tonne in 2014 and 17.8 m³/tonne in 2015.

Despite the increase in pulp and paper output, there is a clear tendency for a quality improvement in the parameters analysed in water effluents, which are within the limits established in legislation.
All the environmental information contained on the packaging of Portucel Group paper brands complies with the requirements of ISO 14021 (Environmental labels and declarations; Self-declared environmental claims).

The Group complies with the external and internal screening processes (by focus groups and the marketing department, respectively) to which packaging is subject prior to launching them on the market. This assures not only compliance with external regulations and internal strategic guidelines, but also that customer expectations and needs are satisfied.

As the holder of FSC® and PEFC certificates for the chain of custody, the Group has implemented processing for monitoring and tracing the fibrous material used in manufacturing paper products, thereby complying with the regulatory standards for labelling purposes. These standards are also relevant to compliance with the requirements for use of the European Union Ecolabel.

**PAPER PROFILE**

Paper Profile is a voluntary initiative by a number of European paper manufacturers, who each year issue an environmental declaration for all the paper produced. The Group continued to involve itself in this project over the reporting period.

Efforts made to assure the responsible and sustainable development of the pulp and paper placed on the market are complemented by a responsible approach to communication, where the aim is not only to meet consumers’ expectations, but also to comply with standards of technical and scientific accuracy in reporting the environmental, social and economic advantages of consuming the Group’s products.

**ACTION PLAN 2016/2020**

- **2016/2017**
  - Certify an Energy Management System

- **2016**
  - Assess alternatives for drying WWTP sludges and reclamation for energy purposes

- **2016/2017**
  - Participate in the “Smart Waste” initiative and assess waste reclamation opportunities for the cluster

- **2020**
  - Adapt the LCPS to the new legal requirements for environmental performance (the new LCP BREF), in accordance with the Environmental Strategy Plan
  - Adapt the Company to the new legal requirements contained in the new Pulp and Paper BREF, in accordance with the Environmental Strategy Plan
10
PEOPLE
Our strength
“The Portucel Group embarked in 2014 on a new cycle of strategic development. To support this, a number of projects have been launched to help our people to identify with the organisation and to develop the skills and attitudes needed for the success of our development plans.”
10.1 A TOP EMPLOYER

The Portucel Group is one of Portugal’s top employers, in a sector where the level of qualifications and skills is generally high. The Group provides specialist careers in areas ranging from forestry research to renewable energy management and paper production. The Group generates thousands of jobs, in its own workforce and indirectly across the economy.

At the end of 2015, the total number of Employees was 2,219. Most of the Group’s Employees (96.3%), work in Portugal, and a small percentage only are located abroad, working in sales and forestry in other European countries, as well as in the United States and Africa. These figures have yet to take into account the workforce of Portucel Mozambique, Colombo Energy and the Vila Velha de Ródão plant. When all these operations are included, the Group has a total of 2,660 Employees.

<table>
<thead>
<tr>
<th>Country</th>
<th>Employees</th>
</tr>
</thead>
<tbody>
<tr>
<td>Portugal</td>
<td>2,135</td>
</tr>
<tr>
<td>Spain</td>
<td>15</td>
</tr>
<tr>
<td>Italy</td>
<td>8</td>
</tr>
<tr>
<td>America</td>
<td>9</td>
</tr>
<tr>
<td>Holland</td>
<td>9</td>
</tr>
<tr>
<td>Germany</td>
<td>15</td>
</tr>
<tr>
<td>Spain</td>
<td>15</td>
</tr>
<tr>
<td>Austria</td>
<td>5</td>
</tr>
<tr>
<td>France</td>
<td>9</td>
</tr>
<tr>
<td>Morocco</td>
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</tr>
<tr>
<td>Poland</td>
<td>2</td>
</tr>
<tr>
<td>Belgium</td>
<td>2</td>
</tr>
<tr>
<td>Turkey</td>
<td>1</td>
</tr>
<tr>
<td>Switzerland</td>
<td>1</td>
</tr>
</tbody>
</table>

To promote the talent and the personal and professional development of our workforce, recognizing merit and ensuring their safety and well-being.

A prevention programme targeted at “zero accidents”;
To develop and retain talent;
To improve the well-being of the workforce.

1. Attracting young people
10 young trainees hired as a result of the Ready to Go programme in 2015;

2. Improved safety
A new prevention plan designed to eliminate high-risk forms of behaviour;

3. Talent development and retention
The “Develop to Grow” project identified the potential for personal and skills development of 24 Employees in 2015.
The Portucel Group has made efforts to renew its workforce. The Rejuvenation Plan, approved in 2014, includes a compensation system for Employees approaching retirement age who wish to leave the Group at an earlier date.

10.2 HEALTH AND SAFETY AT WORK

10.2.1 Key Facts

Health and well-being

Caring for the health and well-being of our workers is a concern of great importance to the Portucel Group. Investment in this area helps to improve motivation, foster good labour relations and reduce absenteeism. All Employees working in Portugal are covered by health insurance.

Safety at work is another key aspect for achieving these aims. The Group has 24-hour medical services offering nursing care at all its units, in order to respond to any emergency situations which may arise. In addition to complying with occupational health requirements and providing first aid in accident situations, this service also offers doctor’s appointments for Employees. In addition to this service, all Employees in Portugal are covered by health insurance, which includes their respective families.

As a safety-certified employer, the Portucel Group implements ongoing measures to reduce workplace risks and analyses all incidents and occurrences relating to the health and safety of its Employees; the resulting data is processed, studied and disclosed, and appropriate training is provided.

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<table>
<thead>
<tr>
<th>% EMPLOYEES PER AGE RANGE</th>
<th>TOTAL EMPLOYEES BY GENDER 2015</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2014</td>
</tr>
<tr>
<td>&lt;30 years</td>
<td>55</td>
</tr>
<tr>
<td>30-50 years</td>
<td>39</td>
</tr>
<tr>
<td>&gt;50 years</td>
<td>6</td>
</tr>
</tbody>
</table>

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41 G4-LA6
10.2.2 Our performance

Levels of absenteeism are a useful pointer to the health and well-being of Employees. An appreciable reduction was achieved in absenteeism in 2015 (from 139,512 hours in 2014 to 128,932 hours in 2015). This indicator is analysed systematically in the search for ways of achieving a consistent reduction in the number of hours not worked.

<table>
<thead>
<tr>
<th>Year</th>
<th>Top management</th>
<th>Senior management and technicians</th>
<th>Middle management</th>
<th>Operatives</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>0.8</td>
<td>0.6</td>
<td>0.4</td>
<td>1.1</td>
<td>2.1</td>
</tr>
<tr>
<td>2013</td>
<td>0.6</td>
<td>0.4</td>
<td>1.1</td>
<td>1.6</td>
<td>3.3</td>
</tr>
<tr>
<td>2014</td>
<td>1.4</td>
<td>1.4</td>
<td>1.1</td>
<td>1.6</td>
<td>4.3</td>
</tr>
<tr>
<td>2015</td>
<td>1.3</td>
<td>1.8</td>
<td>1.8</td>
<td>3.2</td>
<td>5.5</td>
</tr>
</tbody>
</table>

In terms of safety, the group requiring the most attention and effort are Employees in operational sectors who, because they work in an industrial setting, constitute the main risk group, with higher severity rates, higher frequency of occupational diseases and a larger number of accidents leading to sick leave.

The number of days lost due to accidents at work was down on previous reporting period (3,520 in 2014 and 3,002 in 2015).
10.3 HUMAN CAPITAL DEVELOPMENT AND ATTRACTING AND RETAINING TALENT

10.3.1 Key Facts

The Portucel Group embarked in 2014 on a new cycle of strategic development. To support this, a number of projects have been launched to help our people to identify with the organisation and to develop the skills and attitudes needed for the success of our development plans.

A wide array of initiatives were launched in 2014/2015 in the field of talent management and organisational development. The Group decided to invest in this area with the specific aim of recruiting high-potential professionals and to offer an environment in which all its Employees can achieve higher levels of personal and professional realisation.

In 2015, the Executive Board and the Managers’ Forum defined the Portucel Group’s Mission, Vision and Values for the New Cycle period, running from 2015 to 2025. More than 600 middle and senior managers were involved in sessions organised simultaneously at the Cacia, Figueira da Foz and Setúbal units in order to align the organisation with the new identity mapped out for the Group, bringing teams and people closer to work together on building a single organisational culture across all the companies in the Portucel Group.

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Rui Faria, Internal Consultancy Officer

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10.3.2 Key Projects

**Employer Branding**

This project set out to raise the Portucel Group’s profile on university campuses, promoting it as a top Portuguese employer, and boosting its reputation with university students. By telling them about the opportunities on offer in the Group, the project aims to attract the best applicants. In 2015, Group managers organised information sessions at Portugal’s leading universities, including FCT (Faculty of Science and Technology, Universidade Nova de Lisboa), FEUP (Faculty of Engineering, University of Porto), Universidade Nova de Lisboa and ISCTE-IUL (Lisbon University Institute). The Group also took part in job fairs at the University of Coimbra and the Higher Technical Institute.

The Group accordingly focussed its activities on providing information on its employability policies and traineeships in order to attract recent graduates with potential for development, underlining the potential that these may offer in responding to new challenges and future projects.

**Ready to Go**

One of the centrepieces of the Employer Branding project was the launch of the Ready To Go trainees programme, which set out to identify potential high-fliers. The first trainees programme started in July 2015 and will run over two years, allowing 15 young recruits to accumulate varied professional experience in four areas of the Group; one of the 6-month placements will be outside Portugal. Several participants mentioned its size, prestige, and the range of opportunities, especially abroad, as attractive features of the programme.

At the welcome sessions for the trainees, Diogo da Silveira, CEO of the Portucel Group, told them: “This is a two-way experiment in learning and evaluation, for us and for you. Our first Trainees Programme seeks to reflect what we believe to be our main strengths. Our aim is to build Portugal’s leading multinational, so this is a fantastic moment to be thinking of joining us!”

This type of exercise is crucial in order to renew the Group’s staff, introducing a dynamic able to respond to fresh challenges in a culture that encourages innovation and the aspiration to do better.

**Internship Programme**

Another equally important element in the Portucel Group’s relationship with the academic community, in its role as a socially responsible company, is its Internship Policy. The Group stepped up its internship programme over the reporting period, welcoming mostly young people who have recently completed their studies in higher education.

The Group once again opened its doors in the summer months to its Employees’ sons and daughters studying in higher education. The programme offers them the chance to gain experience of work and to learn about the daily operations of a leading industrial facility, in an initiative which also helps to build stronger ties with our Employees.

**Development Centre Project - Develop to Grow**

Another development in 2015 was the launch of a Development Centre’s project - “Develop to Grow”, designed to expand our Employees’ knowledge and so further their personal and professional development. Aimed at management personnel, this project involved 24 Employees in 2015, giving them the opportunity share experiences, face challenges and discover not just their own potential, but also how to align their own progress with the challenges facing the organisation.

**Incentives to optimise employee performance**

Recognising the contribution of Employees is crucial to the Group’s own development, in order to bring performance levels into line with the goals established. The Group has a performance assessment system based on clear and measurable operational goals, in which sustainability issues are also included.

In addition to computerising the system, which applies to all Employees across the Group, significant changes were made to content, with regard to administering management performance. Increased importance has been assigned to individual goals and to project presentation and motivation, and also to identifying opportunities and plans for individual development.

One of the results of applying this assessment system is the payment of financial incentives – performance bonuses – based on the Group’s results and the performance of the individual employee and his or her functional unit. By working to goals, individual Employees are able to achieve high standards which help to optimise performance levels across the Group.

As a matter of principle, the Portucel Group sets minimum basic wages significantly higher than the lowest pay rates in the sector, with no differences in pay for women or men in any occupational category.
Future Leaders Project

During the reporting period, the Portucel Group again took part in the Future Leaders programme (which replaced the Young Managers Team – YMT), organised by BCSD Portugal – Business Council for Sustainable Development, offering its younger managers an opportunity for professional development and leadership training focussed on business cases involving sustainability issues. This programme was targeted in 2015 at professionals with responsibility for investment and business plans, in view of the importance of measuring the impact of business on the environment and people and the returns from sustainability.

The Group also provided training to increase the number of Employees with specialist lean manufacturing expertise to a total of 80. In addition to formal training, participants were involved in a practical project and were involved in a benchmarking exercise with other companies in Portugal, such as Bosch, AutoEuropa, Olympus and EDP, with regard to application of lean tools.

Special attention should also be drawn to the cooperation agreements signed with IEFP – Instituto de Emprego e Formação Profissional (the official Portuguese vocational training institute) for training process operatives and maintenance technicians, and four new courses took place in 2015. Under these arrangements, close to 100 individuals had the chance to receive specialist training, provided by training staff from IEFP and the Group.

Average training hours per employee were 49.2 in 2014 and 57.5 in 2015 and training was provided for 2,108 and 1,975 Employees, respectively, in the two years of the reporting period.

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Training Week at Setúbal Industrial Complex

This initiative involved around 650 Employees in the reporting period, with sessions dealing with:

- Occupational Health
- New Business Ventures
- Safety
- Lean Awareness Raising
- Environment
- The Role of Communication

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10.4 LABOUR RELATIONS

The Portucel Group seeks to foster healthy labour relations with its workforce, involving them actively in its development plans.

Respect for the freedom of association is central to achieving good labour relations. This is a right enshrined in Portuguese legislation, and the Group’s Employees enjoy complete freedom to join any organizations that defend their occupational rights and interests. At the end of the reporting period, the proportion of Employees included in collective bargaining agreements stood at 32%.

Over the course of 2014 and 2015, the Executive Board and other management bodies in the Portucel Group held regular meetings with workers’ representative organisations in order to maintain an open dialogue which can help to ensure the well-being and satisfaction of the workforce and the stability and motivation needed for the Group’s success and ongoing development.

During the two years in question, the Group enjoyed normal industrial relations, except for occasional strike situations, at the Figueira da Foz Industrial Complex in May and November 2014, in view of a decision by the directors to standardize the terms of the Pension Fund.

In order to improve communication and information for the workforce, the Group has continued to use the intranet as a prime means of interaction with all its Employees, given the wide geographical dispersal of its operations.

10.4.1 Internal Social Responsibility

In the field of internal Social Responsibility, attention should be drawn to the work of the Sports Groups which, with the Company’s support, have provided social and educational benefits for Employees and their families, organizing a varied range of cultural and sporting activities designed to develop a sense of belonging. These initiatives encourage Employees to develop their cultural and sporting interests, and contribute to their personal development in other areas.

Length-of-service awards

In the field of internal social responsibility, the Portucel continued to pay tribute to Employees completing 15 and 30 years in the service of its companies. The award ceremony is a symbolic opportunity to acknowledge the contribution made by Employees to the Company’s development.
STAKEHOLDERS
Our face in the community
“We are all responsible for building a more sustainable future. The Portucel Group’s strategy for growth is founded on conserving the environment, creating long-term employment, quality of life and social well-being.”
11.1 STAKEHOLDER ENGAGEMENT: ACTION TAKEN

11.1.1 Active communication

The Portucel Group works in close partnership with its stakeholders, who fall into several categories.

The Group fosters regular and ongoing dialogue with a wide range of stakeholders. This involves using corporate communication media, such as the website and intranet, information and awareness raising sessions, and also contacts established in the course of planning and executing projects in various areas of activity as detailed in the following table.
11.2 LOCAL DEVELOPMENT AND SUPPORT FOR THE COMMUNITY

The Portucel Group’s strategy for growth is founded on conserving the environment, creating long-term employment, quality of life and social well-being. Community engagement is vital to the Group’s various expansion projects, at home and abroad, and is a central pillar of its capital project under way in Mozambique.

The Group launched a series of initiatives over the reporting period to build closer ties with local communities, helping to share information, know-how and good practices, especially in the field of sustainability.

- Guided tours of its facilities (industrial plants, nurseries and its research institute RAIZ) for school parties and groups from institutions and commercial partners;
- Participation in a number of trade fairs. One of the highlights was the Portucel Group’s participation in Portugal’s largest agricultural fair (Feira Nacional de Agricultura), held in Santarém, from 6 to 14 June 2015, for which the theme was “Portuguese Forests”. The Group was represented at the stand presented by AIPF (the Association for the Competitiveness of Forestry Industries), helping to educate the public about the importance of the country’s forestry sector.

As an example of NGOs, we may point to the Portucel Group’s active participation in the New Generation Plantations (NGP) platform, coordinated by WWF International. This project, which has already achieved significant visibility worldwide and brought together a growing number of participants, is based on a concept of plantations which preserve the integrity of ecosystems and protect high conservation values, assuring effective processes for stakeholder participation and contributing to economic growth and job creation. The New Generation Plantations Review 2014 and the associated website, with a Portuguese version launched in 2014, enabled this project (in which the Group is involved) to reach out, raise awareness and share knowledge and experiences worldwide.

An important contribution has also been made by the publication of several brochures and case studies with relevant information on the progress achieved on sustainability issues. In the reporting period, three cases studies were published by the Portuguese Business Council for Sustainable Development (BCSD Portugal): “Low Carbon by Nature” (2015) and, in the Sustainability Council for Sustainable Development (BCSD Portugal): “Low Carbon by Nature” (2014); “Mitigating climate change by investing in natural gas” (2015).

In 2015 the Portucel Group launched its Sustainability Forum, an initiative designed to promote dialogue and cooperation between the Company and its main stakeholder groups.

As part of its dialogue with stakeholders, the Portucel Group launched the Sustainability Forum, providing a new arena for collaboration with relevant stakeholders on matters of strategic importance to the Company. This Forum will meet twice a year, to hold debates and listen to people from diverse fields, such as research, energy, forestry, clients and environmental NGO.

The Portucel Group took part in GreenFest 2014 and 2015, Portugal’s leading sustainability event. This was an excellent opportunity for its educational programme “Give the Forest a Hand”, designed to raise school children’s awareness of forestry conservation. More than 3,000 pupils and teachers took part in the activities.

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11.2.1 Social Responsibility

The Group first adopted its Community Engagement Policy in 2006, reflecting its belief that cooperation and dialogue with local communities form the foundations for its “right to exist and prosper”.

This relationship is fostered through a combined approach, involving support for community projects and activities in the regions where the Group operates, support for local organisations and engagement by staff in improving the quality of life in the local area. The underlying principle is to instill environmental and social responsibility in the way the Company works.

Social responsibility initiatives seek to promote the sustainability values central to the Group’s business approach. From the natural and renewable source of its raw material, the forests that it protects, renews and improves, through to paper, a renewable and recyclable product, used down the millennia in the service of education and culture. In keeping with the Portucel Group’s values and principles relating to sustainable development, priority is given to sustainability education, with a particular focus on forestry protection topics, social and welfare projects.

11.2.2 Key Initiatives

The following social responsibility initiatives organised and supported by the Portucel Group in the reporting period merit a special mention:

1 “Give the Forest a Hand”

This initiative seeks to raise awareness of forest conservation issues and was run on a larger scale in 2014-2015, once again winning the APCE – Associação Portuguesa de Comunicação de Empresa (Portuguese Corporate Communication Association) award for “Best Social Responsibility Communication Campaign” in 2014.

In figures:
More than 3,400 participants in educational activities (1,554 and 1,864, in 2014 and 2015, respectively), mostly primary school children accompanied by their teachers.

Because the Group regards the educational community as an important stakeholder, teachers were asked to respond to questionnaires on this initiative. The findings show that the event is viewed as both important and relevant, and the respondents also took a positive view of the organisation, the activities and the team’s professionalism. The teachers suggested continuing with these initiatives, producing films for school audiences on the sustainable paper production cycle, publishing interactive materials with photographs and videos, and also activities to highlight the different uses of paper.

International Day of Forests

Events took place up and down the country, at which thousands of plants characteristic of the regions in question were given to local communities.

World Environment Day

One of the many events organised at the Group’s estates in 2015 included a special day for Employees’ children and grandchildren of nursery and primary school age.

A satisfaction survey was conducted after the event, to listen to the opinion of the Employees whose families took part. These Employees considered the event inspirational and very interesting for the children. They felt that these initiatives help to transmit the Group’s spirit to future generations, developing a sense of social responsibility, especially in the children.

The following suggestions were made: the Portucel Group should organise more events to alert people to the need to protect wildlife and woodlands and should set up a holiday camp with activities to bring staff together in their leisure time with their families.

Protecting Oysters in the Sado Estuary

The Portucel Group is supporting research into the current state of Portuguese oysters in the Sado estuary. The research project started in 2014 and is funded under a cooperation agreement with the Institute of Nature Conservation and Forests honouring the terms of the Environmental Impact Statement of the new Setúbal paper facility.
2 Patronage of Paper Museum

Educational project explaining the sustainable paper cycle. The Paper Museum opened a new permanent exhibition area in 2014, entitled “From Forest to Paper”, explaining the diversity and sustainability of paper products and their contribution to the development and renewal of Portugal’s woodlands. This project was selected by APOM – Associação Portuguesa de Museologia (Portuguese Museological Association) for its 2015 Patronage Award.

In figures
12,700 visitors in 2014 and 11,008 visitors in 2015.

School parties and thematic workshops accounted for around 40% of visitors.

<table>
<thead>
<tr>
<th>VISITOR TYPES 2014/2015</th>
<th>General public</th>
<th>School trips</th>
<th>Workshops</th>
<th>Portuguese</th>
<th>Foreign</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>7,226</td>
<td>7,050</td>
<td>2,924</td>
<td>2,550</td>
<td>292</td>
</tr>
<tr>
<td>2015</td>
<td>7,050</td>
<td>1,565</td>
<td>2,393</td>
<td>2,393</td>
<td>119</td>
</tr>
</tbody>
</table>
3 Support for the Extra School Meals Programme

The Portucel Group has supported PERA – Programa Escolar de Reforço Alimentar (Extra School Meals Programme), a project organised by the Ministry of Education and Science by donating meals to schools in the local communities around its plants: Eixo, Esgueira, Figueira Mar and Ordem de Santiago (Setúbal) school groups.

In figures
The Group provided daily breakfasts for more than 300 students suffering from food poverty (169 in 2013/14 and 138 in 2014/15), corresponding to a donation of 41,211 meals in total.

The MES’ assessment in the academic year of 2014/2015 shows that 60% of the students benefiting from this programme improved their academic performance, and behavioural improvements were observed in 70%.

4 Partnership with the National Firefighting Academy

In keeping with its belief that in order to defend our woodlands we must first learn to value them, the Group has supported the Safe Forest scheme, which works to raise awareness in rural communities of how to prevent forest fires. The Group also gave its backing during the period to Movimento ECO, a business alliance committed to raising public awareness of the need to protect our woodlands against wildfires.

In figures
In 2014/2015, the Portucel Group sponsored and provided technical support for 25 training sessions in municipalities up and down the country.

5 Support for the University of Coimbra’s ARRISCA C Competition

The Portucel Group Award for Sustainable Forestry Management is designed to further the transfer of knowledge and innovation to the forest management sector and the energy and sustainability sector. In 2014, the award went to a business idea which consists of processing chestnuts into gluten-free flour, using raw materials 100% sourced from Portuguese forests.

This is a pioneering project in Portugal and is centred on chestnuts from the Terra Fria DOC (Controlled Designation of Origin) region. The aim is to process this quality raw material into chestnut flour, increasingly sought after by consumers of gluten-free products. In Portugal, chestnut flour currently has to be imported, due to the failure to invest in processing facilities. The Portucel Group has supported this business idea: by adding value to a Portuguese product, recognised internationally for its excellent quality, this project can perform a valuable service to the economy and to the management of our woodlands, helping to make them economically and environmentally sustainable. The Group manages thousands of hectares of woodlands in Portugal, which are also home to chestnut trees. It has therefore sought to back efforts to add value to a species which is part of the country’s natural heritage.

11.3 HIGHLIGHTS

1 The Group’s investment in the community totalled 2.7 million euros in 2014/2015.

2 Donations of paper are an important way of contributing to society. In 2014 and 2015, the Group donated the equivalent of 22,370 reams, including 10,611 reams for schools and colleges.
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AIFA – ASSOCIAÇÃO PARA A COMPETITIVIDADE DAS INDÚSTRIAS DA FILEIRA FLORESTAL
AIFA is the Association for the Competitiveness of Forest Based Industries, the organisation behind the Competitiveness and Technology Centre for Forest Based Industries.

AIR EMISSIONS
Within the context of climate change, emissions refer to the release into the atmosphere of greenhouse gases and/or of their precursors and aerosols in a given area and during a certain period of time.

BATMs
Biodiversity Assessment Techniques Manuals.

BCSD PORTUGAL
BCSD Portugal – Business Council for Sustainable Development is an association of working leaders working together to help create a world which is sustainable for business, civil society and the environment.

BIODIVERSITY
Biodiversity expresses the genetic variability within each species and the total diversity of species and of functional groups, such as habitats, ecosystems and biomass. It therefore has to do with the number and relative abundance of different genes, species and ecosystems (communities) in a given area.

BIOMASS
Organic, non-fossil, material, of biological origin, partially usable as an energy resource. It is the total mass of living organisms in a given area or volume. Dead biomass is frequently included in this definition as the recently dead vegetable matter.

BEKP – BLEACHED EUCALYPTUS KRAFT PULP
Bleached eucalyptus pulp produced by the chemical kraft process.

BOO – BIOCHEMICAL OXYGEN DEMAND
Parameter for assessing the quantity of oxygen consumed in the degradation of organic matter by biological processes.

CAP – CONSERVATION ACTION PLANS
The plans developed for High Conservation Value Areas.

CELPA – ASSOCIAÇÃO DA INDÚSTRIA PAPELEIRA PORTUGUESA (PORTUGUESE PAPER INDUSTRY ASSOCIATION)
A non-profit Portuguese association representing the collective interests of the pulp, paper and cardboard industry and its associated activities in dealings with public authorities and private institutions at national and international level.

CEPI – CONFEDERATION OF EUROPEAN PAPER INDUSTRIES
The European association which monitors and analyses European legislation and initiatives in the area of the paper industry, the environment, energy and forest use.

CELLULOSE PULP
Agglomerate of cellulose fibres used as a raw material in the production of paper.

CLOINAL PLANT
A plant produced in a nursery from another plant by the rooting of stem cuttings. These are plants which have the same genetic inheritance as the source plant.

COGNERATION
Combined production of electricity and thermal energy, making use of residual heat from the generation of electricity.

COD – CHEMICAL OXYGEN DEMAND
Parameter for assessing the quantity of oxygen required for the complete oxidation of organic compounds in water.

CO₂ – CARBON DIOXIDE
Colourless, odourless gas. May exist in nature or be of human origin from sources which include the burning of fossil fuels, diverse industrial processes and changes in land use.

EETS – EUROPEAN EMISSIONS TRADING SCHEME
The first intra-community market instrument to regulate emissions of greenhouse gases (GHG), usually known as EETS. This is a mechanism created to ensure that the European strategy to reduce GHG emissions is fulfilled, under Directive 2003/87/CE of 13 October, transposed into Portuguese law by Decree Law no. 233/2004 of 14 December (revised by Decree Law no. 72/2006 of 24 March).

ECO-EFFICIENCY
Concept based on the efficiency of production, minimizing consumption of natural resources.

ENERGY EFFICIENCY
Activity which seeks to optimise the use of energy sources and to reduce the consumption of energy.

EUROPEAN UNION TIMBER REGULATION
EUTR is the European Union Timber Regulation designed to counter the circulation in the European Union of illegally harvested timber.

EUCALYPTUS
Name given to various species of the Eucalyptus genus (Myrtaceae family). The most common species in Portugal is the Eucalyptus globulus, a broadleaf tree from Australia (Tasmania) introduced into Portugal in 1852.

EU ECOLABEL
The EU Ecolabel is a voluntary label of approval, recognised in Europe, which promotes high environmental standards by enabling consumers to identify products and services which have a low environmental impact over their life cycle, from extraction of raw materials through to production and use.

EU ECOLABEL
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EUTR – EUROPEAN UNION TIMBER REGULATION
EUTR is the European Union Timber Regulation designed to counter the circulation in the European Union of illegally harvested timber.

FSC® – FOREST STEWARDSHIP COUNCIL
An independent, non-governmental and non-profit organization which promotes the responsible management of forests worldwide.

GHG – GREENHOUSE GASES
Greenhouse gases are the gaseous components of the atmosphere, whether natural or anthropogenic, which absorb and emit radiation in certain wavelengths of the spectrum of infrared radiation emitted by the Earth’s surface, the atmosphere and clouds. The main greenhouse gases in the earth’s atmosphere are water vapour (H₂O), carbon dioxide (CO₂), nitrous oxide (N₂O), methane (CH₄) and ozone (O₃).
**Glossary**

**GREENHOUSE EFFECT**
A process which occurs when part of the solar radiation reflected by the earth's surface is absorbed by certain gases present in the atmosphere. As a result of this, heat is retained rather than being released into space.

**GRI – GLOBAL REPORTING INITIATIVE**
An independent global institution developing a worldwide structure of reporting guidelines, supporting companies in the preparation of reports on their economic, environmental and social performance.

**HABITAT**
The particular environment or place where an organism or species lives; a locally circumscribed portion of the total environment.

**ICNF – INSTITUTO DE CONSERVAÇÃO DA NATUREZA E DAS FLORESTAS**
ICNF is the Portuguese Institute of Nature Conservation and Forests, the public agency responsible for proposing, monitoring and ensuring implementation of nature and woodlands conservation policies.

**INTEGRATED PULP**
Pulp produced at a mill for incorporation into paper manufactured at the same mill, without an intermediate drying process.

**IUCN – INTERNATIONAL UNION FOR THE CONSERVATION OF NATURE**
An international organization founded in 1948 working for the conservation of natural resources. It brings together around 83 American states, 108 governmental agencies, 766 NGOs, 81 international organizations and around 10,000 professionals from different countries around the world. From 1990 to 2008, its official name was World Conservation Union, using the same abbreviation. In 2008 it went back to using its original name.

**IFRS**
International Financial Reporting Standards.

**NOx – NITROGEN OXIDES**
The term used to describe the sum of NO, NO₂ and other oxides of nitrogen that play a major role in the formation of ozone.

**PAPER PROFILE**
Environmental declaration voluntarily signed by paper producers.

**PARTICLES**
Air pollutant made up from finely divided material, suspended in the air.

**PEFC – PROGRAMME FOR THE ENDORSEMENT OF FOREST CERTIFICATION**
This programme was founded in 1999 on the initiative of forest owners in European countries, with support from professionals in the forestry timber sector.

**PELLETs**
Pellets are a renewable energy source belonging to the biomass class. This is a solid fuel consisting of wood waste pressed into granulated form.

**PNALE – NATIONAL PLAN FOR THE ALLOCATION OF EMISSION LICENSES**
National plan which regulates carbon dioxide emission licences.

**PULP FOR MARKET**
Pulp intended for sale on the open market at home or abroad, as raw material for the manufacture of paper.

**REACH**
REACH is the acronym for Registration, Evaluation, Authorisation and Restriction of Chemicals, and refers to the European regulation on the production and use of chemicals and their impact on human health and the environment.

**STAKEHOLDERS**
Stakeholders are people or organisations with a special stake or form of involvement in a given concern. The word is used to refer to the people or groups whose significant interests should be taken into account in strategic planning or business planning.

**ROUNDWOOD**
Wood logs of a smaller diameter for the wood chipping industries (wood-based boards and cellulose).

**SOx – SULPHUR OXIDES**
Gaseous molecules made of sulphur and oxygen.

**TISSUE**
Tissue papers include a wide variety of papers for household use, such as toilet paper, kitchen papers, paper napkins and face tissues, as well as others for industrial use in companies and organisations, such as hand towels, napkins and kitchen roll.

**UWF**
Uncoated woodfree paper, used for printing and writing.

**WBCSD – WORLD BUSINESS COUNCIL FOR SUSTAINABLE DEVELOPMENT**
WBCSD is the World Business Council for Sustainable Development, the leading international organisation in the field of business sustainability.

**WWF – WORLD WIDE FUND FOR NATURE**
WWF is the World Wide Fund for Nature, the largest organisation of its type in the world, working in more than a hundred countries on vast range of environmental conservation projects.
III EXTERNAL VERIFIER’S REPORT

To the board of Directors of Portland, S.A.

Independent verification report
of the 2014/2015 Sustainability Report of Portland Group
(Free translation from the original in Portuguese)

Introduction
In accordance with the report of Portland, S.A., we performed an independent verification of the Sustainability Report of Portland Group. Verification was performed according to instructions and criteria established by Portland Group, as referred to in the Report, and according to the principles and extent described in the scope below.

Responsible
Portland, S.A.’s Board of Directors is responsible for all the information presented in the Report, as well as for the assessment criteria and for the systems and procedures supporting information collection, consolidation, validation and reporting. Our responsibility is to conclude on the adequacy of the information, based upon our independent verification standards and agreed reference terms. We do not assume any responsibility over any purpose, people or organizations.

Scope
Our procedures were planned and executed using the International Standard on Assurance Engagements (ISAE 3000) and having the Global Reporting Initiative, as CAS 410 as reference, in order to obtain a moderate level of assurance on both the performance information reported and the underlying processes and controls. The extent of our procedures, consisting of inquiries, an initial test and some substantive work, was less significant than in a full audit. Therefore, the level of assurance provided is also lower.

The scope of our verification consisted of information regarding national activities included in the report, not including the new activities of Portland Group, Texas paper business in Bridlington, Lancashire, and their CIF and IGU in the United States, which are presented in the report with a level of information limited to their state of development and integration.

For the G4 standard, our work consisted on the verification of the management’s self-declaration on the application level of the G4 according with GRI Reporting Framework Application Levels.

Part of the information required by G4 is available on the Annual Report and Accounts and the Corporate Governance Report, documents that should be consulted for a full understanding of the developed activities, the corporate governance and the Group’s performance.

The following procedures were performed:
(i) Inquiries to management and senior officials responsible for areas under analysis, with the purpose of understanding how the information system is structured and their awareness of issues included in the Report;
(ii) Identification of the existence of internal management procedures leading to the implementation of economic, environmental and social policies;
(iii) Testing the efficiency of procedures and systems in place for collection, consolidation, validation and reporting of the performance information previously mentioned;
(iv) Confirming, through visits to sites, that operational units follow the instructions on collection, consolidation, validation and reporting of performance indicators;
(v) Exercising substantive procedures, on a sampling basis, in order to collect sufficient evidence to validate reported information;
(vi) Comparing technical data related to greenhouse gases validated by the independent source under the European Emission Trading Scheme;
(vii) Comparing financial and economic data with those in the “Annual Report 2014” and “Annual Report 2015” audited by PwC;
(viii) Analysis of the processes for defining the materiality of the issues included in the report, according to methodology described;
(ix) Verification of the existence of data and information required to comply with the G4 version, option “In occasional” – Comprehensive.

Confidentiality and Independence
Internally, PwC’s approach is governed by ethical and professional rules of confidentiality and independence guidelines. Thus, in all reports of our collaboration, the firm and its employees maintain strict confidentiality of information obtained in the performance of their duties and complete independence regarding the interests of the companies of Portland, S.A.

Additionally, we declare our work is in line with standard ISAE 3000 independence requirements, including compliance with PwC’s independence policies and rules of ethics of the International Ethics Standards Board for Accountants (IESBA).

Conclusions
Based on our work described in this report, nothing has come to our attention that causes us to believe that internal control related to the collection, consolidation, validation and reporting of the performance information referred above is not effective, in all material respects.

Based on the assumptions described in the scope, we conclude that the Report includes the data and information required for the option “In occasional” – Comprehensive, according to GRI in its G4 version.

Lisbon, April 1st, 2016
Represented by:
António Joaquim Bracho Correia, BOC

Portland, S.A.

PwC
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We would like to address a word of appreciation to our Employees for appearing in the photos in this Sustainability Report.

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