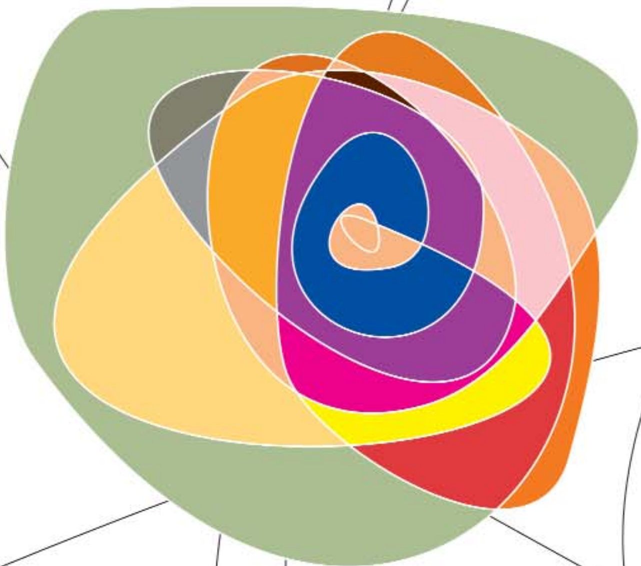
Report

The recipe for paper Sustainability



March 2008

ASPAPEL
Naturally, paper

Letter from the Chairman

Three years have gone by since the Paper Sector's first Report of Sustainability was published, which at the time was the first sectorial report of the kind to be published in Spain.

True to its pledge, ASPAPEL hereby presents a new report, which aims to respond to citizen demands and concerns as well as providing full and widely contrasted information about the four axes of action on which the sector's sustainability strategy is based: sustainable forest management, efficient and responsible manufacturing processes, leadership in recovery and recycling, and creation of wealth and enhancement of living standards.

For the preparation of this document, an intense consultation process was carried out to ascertain the opinions of the main stake holders in the sector, which included invitations to government agencies, large-scale paper users and customers, forest owners, trade union organisations, ecologists and consumer organisations, universities...

We are grateful to all of them for their attendance at meetings and their active participation in an open dialogue with a clearly constructive attitude, in which they raised questions and new approaches that have enabled us to strengthen and enhance our strategy and Sustainability Report.

One of the improvements that came out of this consultation process was the decision to update the Statistical Report that ASPAPEL publishes each year with the most relevant data from the sector in order to ensure that the content of this Report remains fresh and up-to-date, even though it is still planned to be published every three years.

Thus, ASPAPEL once again is keen to transmit to the whole of society the paper sector's commitment to sustainable development by providing actual and verifiable information about its business, its contribution to creating wealth and employment while improving our environment.

Íñigo Echevarría
Chairman of ASPAPEL

Contents:

The Recipe for Paper Sustainability

The recipe for paper sustainability uses the ingredients of sustainable forest management, efficient and responsible manufacturing, leadership in collection and recycling, and generation of wealth and contribution to improved living standards.

Plantations of wood crops for paper

426,528 hectares of forest plantations [*]

20% of total amount of forest sinks [*]

3,796 direct and 11,386 indirect jobs

Forest certification

94% of the forestlands managed by the sector

93% of pulp mills

71% of pulp suppliers

Situation 2006 and/or 2004-2006 evolution

(*) In 2005

Energy efficiency

Use of fuels: 62% gas natural and 32% biomass

Co-generation: 1,080 MWe of efficient energy

Reduced emissions

2% less CO_2, 8% less SO_2, 6% less Nox

Valorisation of manufacturing wastes

60% valorisation

Reduced water consumption and discharges

5% less water used

7% less discharge per ton of pulp, 16% less per ton of paper

100% molecular chlorine free pulp bleaching

Certified Environmental Management Systems

75% of all output EMS certified

Situation 2006 and/or 2004-2006 evolution

Collected for recycling

60% of used paper

Annual savings on landfill space

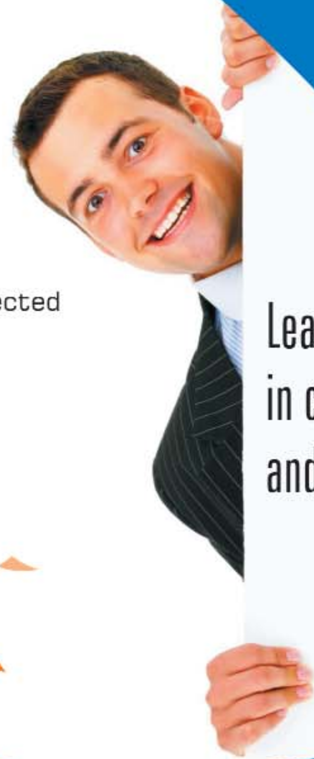
Equal to 46 football stadiums

Annual savings on landfill emissions

Of 4.1 million tonnes of Co_2

Recycling

100% of all used paper separately collected



Leadership in collection and recycling

Situation 2006 and/or 2004-2006 evolution

Generation of wealth and contribution to living standards

Sectorial growth of 17%

Six percent above GDP

Capital expenditure of 1200 million Euro

2% increase in no. of direct employees

Additional 1 million tonnes' capacity

Exports

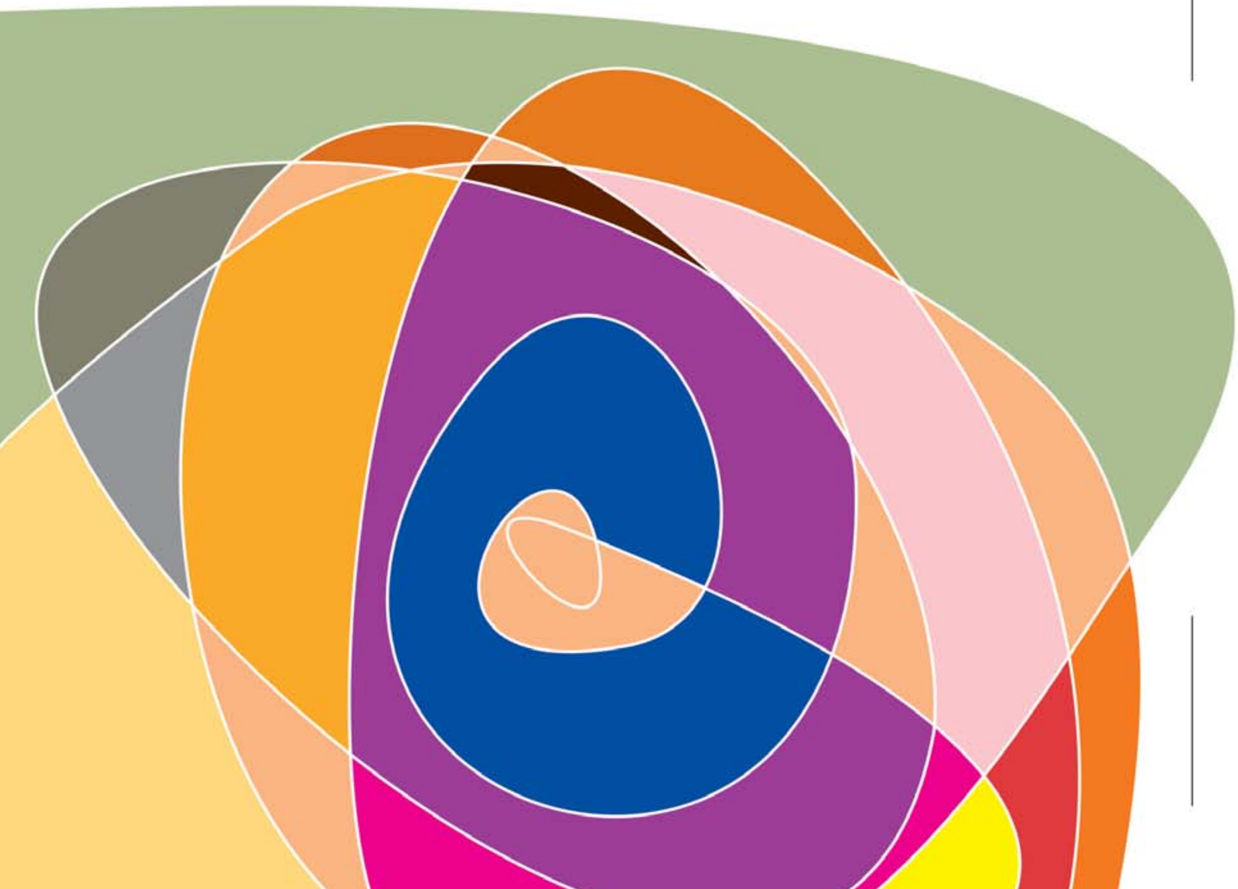
44% of paper production
and 48% of pulp

9.2% increased productivity

Situation 2006 and/or 2004-2006 evolution

Introduction

The Spanish paper industry is a sector in full growth and committed to sustainable development. By first consulting all stakeholders with a vested interest before preparing this Report, the sector has gone one step ahead in furthering knowledge and analysis of the demands of society and in its search to find the best formulae to integrate such demands within the sector's strategies.



VISION

Thanks to its specific characteristics, the paper industry is one of the best positioned sectors on the road towards sustainable development: with a natural and renewable raw material and through increasingly sophisticated and constantly developing production processes that employ technologies that are more and more environment-friendly.

The sector's vision of sustainability sees it as **the determined contribution of paper and paper-making companies to improving living standards and sustainable development through sustainable forest management, clean manufacturing processes and continuous recycling of its products.**

Fully aware of the many challenges that lie ahead, this report details the degree of fulfilment of the objectives assumed in the previous report and poses new commitments to further improvement.

DESCRIPTION AND DEVELOPMENT OF THE SECTOR

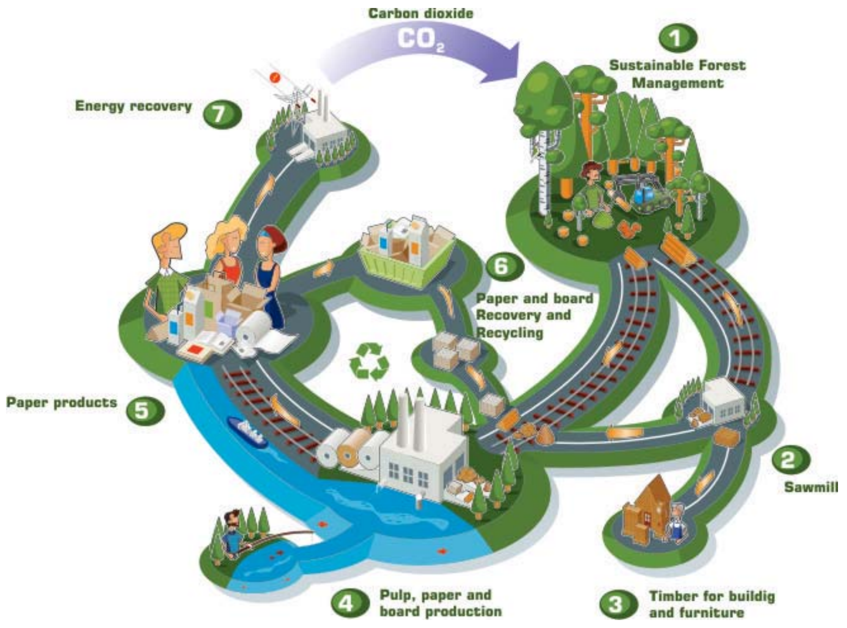
Paper

Over 500 types of paper are used in the world for communications, education, culture and art, healthcare and personal hygiene, trade and goods packaging ... and new applications are constantly being developed. A third of all paper used today are new paper grades for new uses that did not even exist ten years ago!

In Spain, per capita paper consumption has grown from 116 kilograms per year in the early 1990's to the present figure of 176 kilograms per inhabitant per year.

Paper has a fully integrated and sustainable cycle. Trees produce wood and sequester carbon dioxide, which is then stored in paper. Thanks to the recovery and recycling of paper products, the useful life of cellulose fibres obtained from wood is prolonged, thereby optimising the usage of this natural resource. Furthermore, biomass and process wastes can be reused as materials or energy sources. So the sustainable paper cycle is closed and balanced, starting with a natural and renewable source of raw materials: the forest.

The sustainable paper cycle



Source: ACE

The Paper Industry

The sector has a long background in Spain. The outset of papermaking in Europe dates back to the 12th Century in the Spanish town of Xátiva.

Since then, the sector has changed substantially. Today it is a capital-intensive industry that uses the most up-to-date technologies and in its plants distributed across the entire country, with the largest concentrations found in Catalonia, the Basque Country, Aragon, Galicia, Levante, etc.

There are a total of 124 industrial mills including some of the most modern in Europe. It is a sector in constant expansion and highly committed to sustainable development and fully aware that sustainability and competitiveness are factors that have to go together.

Based on 2006 data, total output towards 8.4 million tonnes, of which 6.4 were paper and 2 million pulp. Spain holds the fifth position within the European Union as a producer of pulp and is the sixth largest paper producer.

The number of direct jobs reaches 18,100 employees and indirect employment is over 90,000. Turnover stands at 4700 million Euros.

With regard to foreign trade, paper imports (4.3 million tonnes) are significantly higher than exports (2.8 million tonnes). The expansion process that the sector is fully immersed in at present will help to reduce our import requirements and increase our presence abroad.

Spain - pulp and paper sector (in k tonnes)

	2006
PAPER & BOARD	
Production	6,353.3
Consumption	7,868.0
Imports	4,312.2
Exports	2,797.5
PULP	
Production	2,037.7
Consumption	1,991.7
Imports	923.9
Exports	969.9
RAW MATERIALS	
Wood consumption (in k m^3)	6,317.6
Recovered paper consumption	5,370.8
TOTAL SECTOR TURNOVER (in million Euro)	**4,700**

ASPAPEL

ASPAPEL (Spanish Association of Pulp, Paper and Board Manufacturers) is a national professional organisation that encompasses firms from the pulp & paper sector. Its member companies account for 85% of overall sector turnover.

The object of the Association is to contribute to the competitive and sustainable development of its member companies and to promote the image of the sector, its companies and its products.

For this purpose, it works by representing the sector actively and proactively before government agencies and other stakeholders, developing sectorial strategies in matters that are of priority for the industry, providing a forum for encounters between member companies, developing initiatives that improve the image of paper and papermaking companies and supporting their management in a variety of fields.

It is priority fields of action the environment, forestry, recycling, labour relations, prevention of occupational hazards, and communications. All of this is backed by statistical information and knowledge on which its arguments and proposals are founded.

Representativity, consensus and balance, efficiency, orientation towards results, credibility and transparency, pro-activity and co-operation are some of the organisation's principal values.

The association is governed through a General Assembly and a Board of Directors, with specific Committees and Working Groups in certain areas of action, and backed by a permanent professional structure.

THE REPORT

Scope

For the purposes of this report, it is important to separate the business of the paper sector in the strict sense - pulp and paper making - from suppliers of both raw materials (wood, newspaper, etc), goods and services and from paper transformers and the printing and publishing sector

The paper sector's Sustainability Report is to be published every three years since 2005. For this second edition, as far as its period of coverage is concerned, it was decided to add to the data from the period 2004-2006, the historical series included in the previous report, so that, together with the general, illustrative photograph of the sector, the reader has all the necessary data available to know how the sector has developed in the last three years. In some cases, different periods of time will be used where necessary to improve understanding of the relevant indicators.

Furthermore, ASPAPEL has taken on the pledge to include the most significant data in its annual statistical, so that the content of this report will remain fully up-to-date.

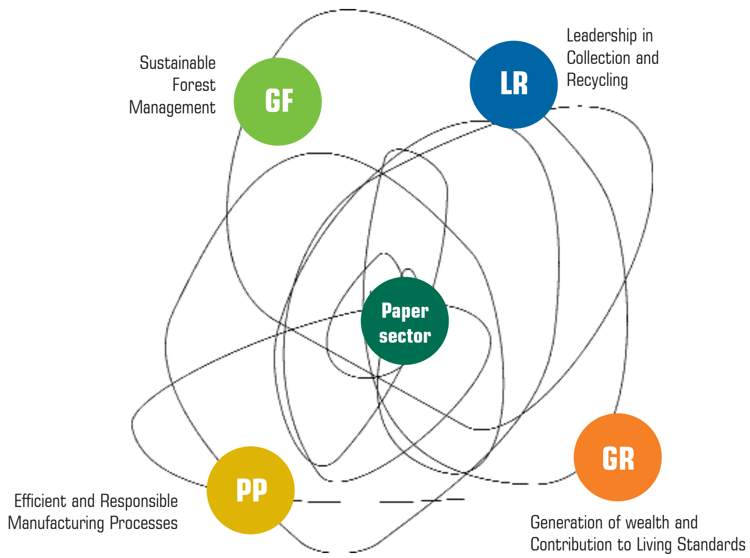
Strategy and indicators

Starting from the concept of the paper cycle, the commitment of the sector to sustainability is based on four priority fields of action: sustainable forest management, efficient and responsible manufacturing processes, leadership in collection and recycling, and generation of wealth and contribution to improved living standards. This strategy is in line with the principles of sustainability defined by the Confederation of European Paper Industries (CEPI).

For each of these fields of action - and based on the GRI indicators - a series of indicators considered to be of relevance has been defined to transmit the key aspects of the sector's commitment to sustainability.

The development of the indicators corresponding to each one of these fields of action is detailed in the next four chapters.

Paper Sectors' Fields of Action



Field of action	page	Development		Indicator Description	Character	Page
Sustainable Forest Management (GF)	1 GF		−	Source of Wood: domestic/imported	Environmental	27
	2 GF		−	Direct & indirect rural employment derived from forest activity	Economic, Social	29
	3 GF	+		CO_2 fixation by forest sinks	Environmental	29
	4 GF	+		Percentage of Chain of Custody certified mills and suppliers	Environmental	31
Efficient and responsible manufacturing processes (PP)	5 PP	+		Fuel consumption	Environmental	40
	6 PP		−	CHP capacity: Ratio of generated electricity vs. consumption	Environmental	41
	7 PP	+	−	Emission of greenhouse gases. Ratio of CO_2 emissions from co-generation over total	Environmental	42
	8 PP	+		Air-borne emissions of SO_2, NOx	Environmental	43
	9 PP	+		Generated waste	Environmental	43
	10 PP	+		Total water usage and discharge quality	Environmental	45
	11 PP	+		Percentage of elemental chlorine free bleached pulp	Environmental	47
	12 PP	+		Water treatment systems	Environmental	47
	13 PP	+		Implementation of independently audited Sustainable Forest Management systems (ISO or EMAS)	Environmental	48
	14 PP	+		Contract and employment characteristics. Creation of employment in rural areas	Economic, Social	49
	15 PP	+		Rotation rates. Employee motivation	Economic, Social	50
	16 PP	+		Sectorial co-operation in Health and Safety	Social	50
	17 PP	+	−	Accident rates (severity and frequency). Nº of occupational accidents	Social	51
Leadership in Recovery & Recycling (LR)	18 LR	+		Recycling rate (consumption of paper recovered as raw material /paper & board consumption)	Environmental	61
	19 LR	+		Collection rate (used paper collection /paper & board consumption)	Environmental	59
	20 LR	+		Sector involvement in promoting collection and recycling	Environmental, Economic, Social	63
Generation of wealth and Contribution to Living Standards (GR)	21 GR	+		Sector growth compared to GDP	Economic	69
	22 GR	+		Sector's capital expenditure	Economic, Social	70
	23 GR	+		Turnover	Economic	70
	24 GR	+		Raw material procurement	Economic	71
	25 GR	+		Geographical distribution of sales. Trade balance	Economic	72
	26 GR	+		Direct/indirect employment	Economic, Social	74
	27 GR	+		Labour productivity	Economic	74
	28 GR	+		Stock market performance of listed companies	Economic	75
	29 GR		−	Paper consumption and living standards. Paper consumption/GDP	Economic, Social	76
	30 GR	+		The paper sector and social actions	Social	77

+ Developing positively − Developing negatively Environmental Economic Social

External verification

It is the intention of this Report to provide maximum transparency and credibility, which is heightened by an independent validation process of both the contents and the approaches adopted herein.

Bureau Veritas Certification has independently validated the information presented herein through two complementary processes:

- Validation of the relevance of the contents (to meet the principle of materiality).
- Verification of the information and traceability of the data.
  These mechanisms followed systematic procedures and were carried out completely independently without any bias or conflict of interest. The people entrusted with this task were given all necessary resources and access to whatever information, installations, records or archives they required to do their job.

As a result, **Bureau Veritas Certification** has issued its independent report, which is available upon request as well as the corresponding Certificate of Conformity.

Dialogue with stakeholders

As part of the preparation work for this Report, in October and November 2007 an intense consultation process was carried out with the main stakeholders in the sector, in which public administrations, large paper users and customers, forest owners, trade unions, ecologist and consumer organisations, universities, etc were invited to participate in.

A score of representatives from these organisations attended three general thematic meetings (backed up by bilateral contacts with certain organisations that were unable to at end the main meetings) to work out a common expression of their expectations and concerns with regard to the world of paper.

Three specific meetings were held to discuss the issues of:

- Paper versus Trees
- Paper consumption, welfare/waste
- Cleaner and cleaner production processes

This initiative was highly welcomed as seen by the attendants at the meetings and the active participation in an open dialogue with a clearly constructive spirit, which raised new questions and approaches which undoubtedly will help this memorandum to respond suitably to the expectations of both these stakeholders and the general public.

Prior consultation process with stakeholders

PARTICIPATING ORGANISATIONS	20 (public administrations, large users of paper, Forest owners, trade unions and ecologist organisations, universities...)
MEETINGS	3 thematic meetings (Paper versus trees - paper consumption versus welfare/waste - cleaner and cleaner production processes) complementary bilateral contacts with certain organisations that were unable to attend the main meetings
RESULTS	Proposals analysed by ASPAPEL, who seeks to find the best way of including them in this report by establishing a new indicator or modifying current indicators, setting new objectives for improvement and defining new action plans or communications schemes.
PROCESS VALIDATION	Bureau Veritas

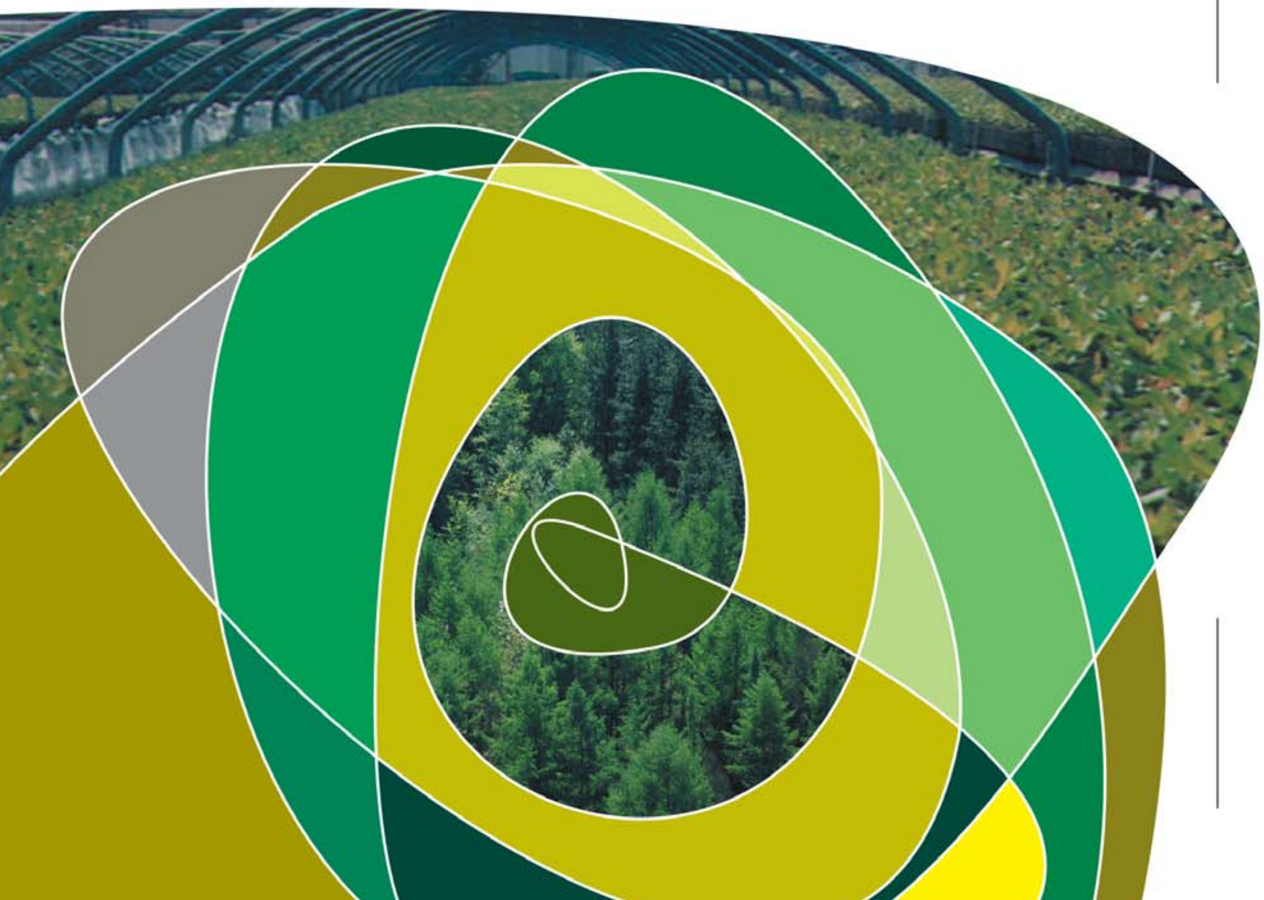
ASPAPEL then analysed the different proposals made by the stakeholders and the best way in each case of giving them due consideration in this Report, either by establishing a new indicator or modifying a current indicator, by setting new objectives for improvement or by defining new action plans, or by incorporating the proposal into the sector's communications strategy through updating or redefining certain messages.

Bureau Veritas took part as an independent validator and verifier of the entire dialogue process to guarantee the impartiality and independence of the opinions voiced therein.

This ambitious consultation process has the sector to enhance and improve the content and approach of its sustainability strategy.

Sustainable forest management

The sector's contribution to increasing forest landcover through plantations of paper-destined wood, which act as large-scale CO_2 sink and help to mitigate climate change, or the significant boom that has taken place in the sector with regard to forest certification are two of the key actions taken by the Spanish pulp and paper industry with regard to sustainable forest management.



Sustainable forest management

Sustainable forest management is the handling of forests in such a way that they maintain their biodiversity, productivity, regeneration capabilities and vitality while satisfying the economic, social and ecological requirements of both today and the future on a local, national and global scale.

The paper sector is committed to sustainable forest management, which represents one of the pillars of its sustainability strategy.

EVOLUTION OF INDICATORS

Source of wood for paper: domestic / imported (1GF)

The basic raw material for papermaking is cellulose fibre from the wood, a natural, renewable and recyclable resource. Fine woods from tropical forests are never used, nor are oaks, beeches or Holm oaks. The wood used for papermaking in Spain comes from fast-growing species (pine and eucalyptus), which are specifically grown for such purposes on plantations that increase the total tree-covered land area.

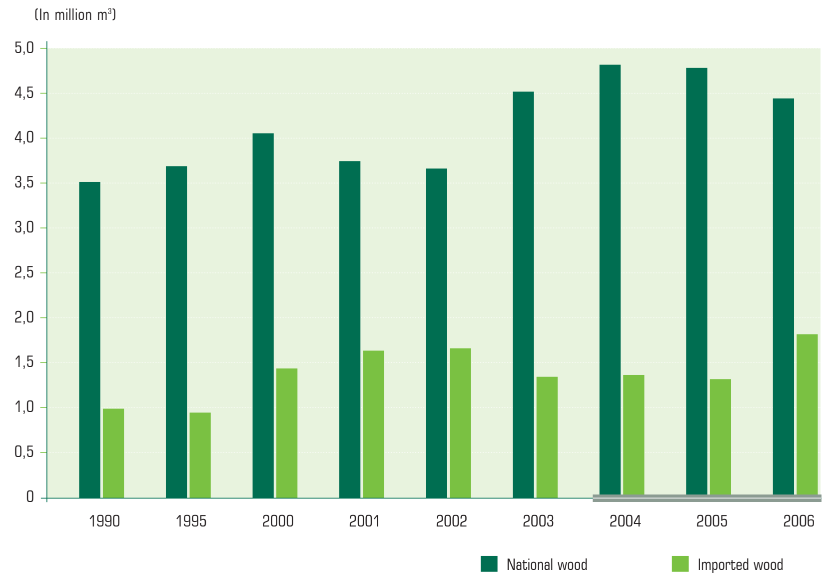
Fast growing plantation are efficient CO_2 sinks and collaborate in the struggle against climate change, providing a whole series of environmental, social and economic benefits.

Total **wood consumption** for papermaking **increased** over the period 2004-2006 **by 2.3%** to reach a total of 6.317.600 m³. The **use of nationally grown wood dropped by 7.5%.**

The Spanish paper sector, through ASPAPEL, endorses to the strict Code of Conduct against illegal logging developed by CEPI (the Confederation of European Paper Industries). The legality of all wood logging has to be accredited by logging permits issued from the country of origin.

(1GF) Source of wood: national / imported

Source: ASPAPEL



Forest plantations of fast-growing species

Environmental benefits	Social and Economic benefits
Increased tree-covered land area	Contribution to rural development
Preservation of natural forests	Generation of direct and indirect employment
Efficient erosion control	Use of tree-covered lands following the abandonment of arable and cattle farming
Wood exists and remains over time as a renewable resource	Reduces Spain's wood deficit
Efficient CO_2 sinks	Boots sustainable growth in the forest sector

Wood for paper. 2004-2006 (in k m³)

	2004	2005	2006	% 2006/04
National wood	**4.805,6**	**4.799,7**	**4.445,8**	**-7,5%**
Eucalypt	3.637,1	3.608,1	3.250,0	-10,6%
Pine	1.168,5	1.191,6	1.195,8	2,3%
Imported wood	**1.370,3**	**1308,2**	**1.817,8**	**36,6%**
Total wood	**6.175,9**	**6.107,9**	**6.317,6**	**2,3%**

Source: ASPAPEL

Direct and indirect employment in rural areas thanks to forest activity (2GF)

Plantations of fast-growing species generate direct (reforestation and silviculture on forest farms) and the indirect (machinery, transport, workshops..) employment and stimulates rural development. **Direct employment** in **2006** accounted for **3,796** jobs, apart from an additional **11,386 indirect jobs**, with a **reduction of 24%** over the years 2004-2006 due to the drop in the amount of national wood harvested on eucalypt plantations.

(2GF) Direct and indirect employment on fast-growing forest plantations

	2004	2005	2006	% 2006/04
Direct employment	4.984	4.832	3.796	-24%
Indirect employment	14.952	14.496	11.386	-24%

N.B.: The discrepancy with the data in the previous memorandum is due to improved calculation methods

Source: ASPAPEL

CO_2 fixation by forest sinks (3GF)

In Spain, **total forest landcover** is clearly expanding. In 2003-2005 **it went up by 8.9%** to reach 16.6 million hectares, which represents 33% of the country's total surface area.

As far as fast-growing forest farms are concerned, eucalypt plantations have increased by 4.7%, whereas Pinus radiata stands have remained the same. **Plantations** destined to produce **wood for the paper sector have increased their surface area by 6.6%** to reach 426,528 hectares (71,000 hectares of pine and 355,528 hectares of eucalypt).

Forest area in Spain (in hectares)

Hectares	2003	2005	% 2005/03
Forest landcover	26.619.204	27.459.478	3,15%
Tree-covered land area	15.219.014	16.581.645	8,9%
Land area with eucalyptus sp.	605.829	634.365	4,7%
Land area with pinus radiata	236.843	236.834	0%
Total surface area with eucalypt and pinus radiata	842.672	871.199	3,3%
Surface area for paper sector	400.000	426.528	6,6%
Eucalypt sp. covered	350.000	355.528	1,5%
Pinus radiata covered	50.000	71.000	42,0%

SOURCE: Ministry of the Environment, *Criterios e Indicadores de gestión forestal sostenible y Anuario estadística forestal 2005*

(3GF) Stored CO_2

Tonnes of equivalent carbon	2003	2005	Variación 2005/03	% 2005/03
On total Spanish forest landcover	475.812.780	502.341.213	26.528.433	5,5%
1 On total eucalypt and pinus radiata farms	83.922.514	92.506.984	8.584.470	10,2%
On total plantations for paper sector	42.178.681	47.237.051	5.058.370	12,0%

SOURCE: Ministry of the Environment, General Directorate for Biodiversity

Trees use sunlight, water and the CO_2 they absorb from the atmosphere to grow. Fast-growing species (pine and eucalypt) that are grown on forest farms for papermaking are large CO_2 sumps that help to mitigate climate change.

Spanish forest ecosystems in 2003 stored in the equivalent of 475.812.780 tonnes of carbon, of which 83.922.514 tonnes of sequestered carbon corresponded to eucalyptus and radiata pine plantations, approximately 17% of the total carbon store. Eucalypt and pine forest farms specifically for paper sector use stored 42.178.681 tonnes of carbon, 9% of the total.

Over the period 2003-2005, Spanish forest ecosystems sequestered 26.528.433 tonnes of carbon, which represented and the increase of stored CO_2 of 5.5%. Plantations of both species specifically for paper sector use absorbed 5.058.370 tonnes of carbon, which represents an increase of 12% in those two years.

20% of the increased carbon sequestration in Spanish forest sinks in the period 2003-2005 took place on the forest plantations for papermaking.

(4GF) Chain of Custody certified mills and suppliers (in %)

	2004	2005	2006
Pulp mills	36,0%	43,0%	93,0%
Wood suppliers	0,3%	1,6%	15,9%
Pulp suppliers	12,8%	37,8%	71,4%

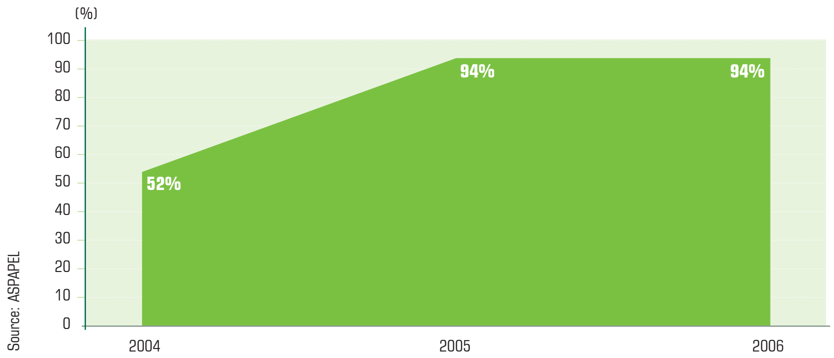
Source: ASPAPEL

Percentage of mills and suppliers with Chain of Custody certification (4GF)

Forest certification is the process through which an officially accredited independent entity guarantees that a forest-based product is made of wood that comes from a sustainably managed forest. In the first step, the forest husbandry is certified as meeting sustainability criteria. After that, when the certified wood joins the industrial process, a Chain of Custody is inspected and certified, which means that its trail from the forest to the end consumer can be traced. Finally, the consumer receives a product with a label that guarantees that it comes from a sustainably managed forest.

The years 2004-2006 saw a tremendous boom in forest certification in the sector. At the end of the period, in **2006, 94% of the forest land cover managed by the pulp and paper industry** was **certified** under at least one certification scheme. **93% of all pulp mills** held a **chain of custody certificate**, as did **16% of suppliers of wood to the sector** and **71% of pulp suppliers.**

Forest area managed by the industry with SFM certification



OBJETIVES AND ACTION PLANS

Fulfilment of previous objectives

Increasing forest land cover and wood stocks was one of the objectives established by the sector for this period. This objective has only been partially fulfilled, as although the land covered by **forest plantations** designed to produce **wood for paper** recorded an **increase of 6.6%**, **national wood consumption** went **down by 7.5%** while imports increased significantly.

The sector has worked very actively to **promote forests and forest-based products as carbon sinks** - another of its of the objectives established for this period - in different **forums and at the regional Forest Forum.**

Another basic objective of the Spanish paper industry for the period 2004-2006 was to increase consumption of wood with forest certification and the number of certified Chains of Custody within the sector. By the end of the period, **94% of the forest area managed by the sector** was certified and **93% of pulp mills had a certified chain of custody,** as did 16% of suppliers of wood to the sector and 71% of pulp suppliers.

New objectives and actions

A key objective for 2007-2009 is to **mobilise as much nationally grown wood as possible while also promoting the use of certified wood and strengthening the supply of paper products with forest certification.** A million hectares have been certified but no certified national wood exists yet. The forests continue to grow but a forest inventory needs to be carried out to ascertain how much wood is ready for harvesting and where. Although wood stocks have increased, competition and insufficient logistics and mobilisation have led to difficulties in maintaining regular supplies. On the other hand, certain reluctance still exists towards these fast-growing species used for papermaking.

Some of the actions to be taken over the next three years, which are the result of the dialogue held with stakeholders, include improving technical and statistical information about relevant matters, including **studying, monitoring and including in the future new indicators about wood mobilisation and consumption of certified wood** or developing an **independent assessment of the eucalypt**, and improving information to consumers through enhanced **communication schemes and campaigns about forest management and forest certification.**

Another objective for the period 2007-2009 is the **promotion of wood-based products as CO_2 sinks.** This idea is also one of the driving forces behind the *Gracias papel campaign* aimed at the general public, which is currently being implemented by the Paper Forum.

		2004-2006 Objectives	Fulfilment of 2004-2006 objectives	New objectives	New action plans
Sustainable Forest Management (GF)	**1**	Increase forest landcover and wood stocks	- Increase tree-covered land area by 9% - Increase land area covered by forest farms for papermaking by 6.6% - Promote regional forest forum	Mobilisation of a larger amount of wood on current forestlands	- Independent study on Eucalyptus - Study of possible inclusion of new indicator on wood mobilisation - Improved communications regarding forest management and wood logging
	2	Promote the role of forests and forest-based products as carbon sumps	- Promote forest farms in forestry forums and Regional Roundtables as CO_2 sumps and their harvesting to manufacture CO_2 storing products	Promote wood-based products - especially paper - as CO_2 sinks	- Gracias papel campaign - Involvement in Edufores Foundation

		2004-2006 Objectives	Fulfilment of 2004-2006 objectives	New objectives	New action plans
Sustainable Forest Management (GF)	3	Increase consumption of certified wood	- Active participation in developing and promoting forest certification, supporting regulations and certification - Development and enhancement of procurement policies - 94% of forestlands managed by the pulp and paper industry is certified under at least one certification scheme - Adoption of Code of Conduct against illegal logging	Promote the supply of certified wood	- Develop indicators to monitor the proportion of certified wood consumed - Boost actions in coordination with relevant organisations to develop the Code of Conduct against illegal logging - Strengthen the circulation of information regarding forest certification
	4	Increase the number of Chains of Custody in the sector	- 93% of pulp mills with certified Chain of Custody, as well as 16% of wood suppliers and 71% of pulp suppliers - Circulation and advisory service for companies from the sector. (Guide to the implementation of wood traceability schemes in pulp & paper companies)	Promote the supply of certified products	- Chain of Custody monitoring system in non-integrated paper mills

Efficient and responsible manufacturing process

Energy efficiency, rationalised raw material procurement, modernised production mills and implementation of Best Available Techniques, together with an increasingly skilled and qualified workforce and significant efforts in training and improved health and safety - these are the key elements that have enabled the pulp and paper industry to improve its environmental impact while also increasing production.

The manufacturing process

Papermaking is conceptually a simple operation requiring cellulose fibres, water, electricity and steam, although the industrial process calls for highly technological machinery and equipment.

Starting from the wood, the cellulose fibres are separated from lignin that bond them together, which is done by the mechanical, chemical or semi chemical processes that determine the different types of pulp. When the source of fibre is used paper, it is immersed in water and stirred to obtain a suspension of cellulose fibres once any sand, plastics or other pollutants accompanying the paper has been removed.

All papermaking, whether with virgin fibre, recycled fibre or a mixture of both, involves creating a water-based fibre slurry, so that the rest of the process consists of slowly removing such water. Successive fibre settling stages take place to create a wet web of paper from which water is removed by gravity, vacuum and pressure to eventually proceed to hot drying. The finishing stage requires presenting the paper as an end product in the form of reels.

The papermaking process uses electricity to drive machinery and steam to dry the pulp and paper. These energy requirements are covered in the following way: electricity is co-generated on site or bought in from external providers, while steam is produced at the mill using the cogeneration process or in conventional boilers.

The sector is capital intensive and has a high level of **environmental investments.** Expenditure on environmental protection in the paper, printing and graphic arts industry in 2005 reached €149.8 million (€55.5 million on capital asset investments and €94.3 million on ordinary expenses aimed at protecting the environment), which represented a growth of 5.1% over the previous year (€142.5 million: € 51.2 million on investment and 91.3 million on ordinary expenses).

Environmental investments

	2004	2005
Total environmental protection (million Euros)	142,5	149,8
Ordinary expenses (million Euros)	91,3	94,3
Capital investments (million Euros)	51,2	55,5

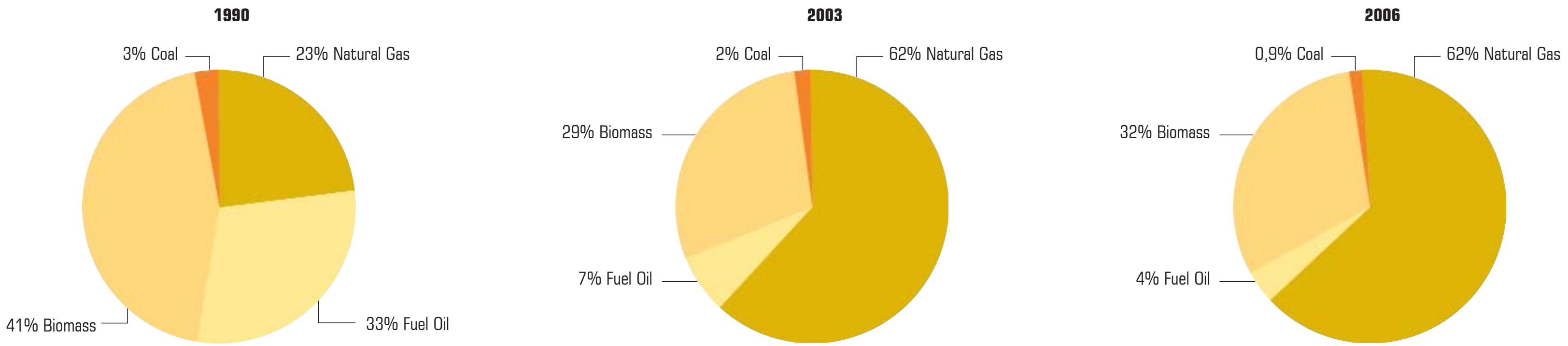
Fuente: INE

EVOLUTION OF INDICATORS

Fuel consumption (5PP)

The sector uses **62% natural gas** and **32% biomass** to produce the heat and electricity required for its industrial processes. In the last three years, the use of fuel-oil has been reduced from 7% to 4%, while biomass consumption in its fuel balance has increased by 3%.

(5PP) Fuel consumption



Source: ASPAPEL

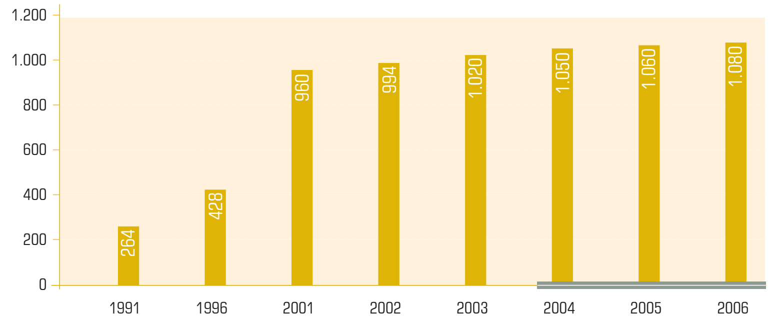
CHP capacity.
Electricity generation versus electricity consumption ratio (6PP)

The sector is the leader in Spain in cogeneration, an efficient energy system that allows for savings in primary energy, eliminates losses from the grid, reduces emissions and especially greenhouse gases, and contributes to more reliable electricity supplies. The pulp and paper sector in the year 2006 accounted for 2.2% of all electricity generated in Spain. Since 1999, the sector has produced more energy than it consumes, thereby providing electricity for the National Grid. The Spanish pulp and paper industry is also the clear leader among European paper sectors with regard to the implementation of this efficient system.

Installed CHP generation in the period 2004-2006 **grew** by a mere **6%** and the **ratio of electricity generated by the sector versus total consumption went down** from 1,45 in 2003 to 1.33 in 2006. All of this was due to regulation and profitability issues. Cogeneration represents a significant technological and economic effort towards the strategic integration of its energy business, which is key for the sector's competitiveness and sustainability in Spain.

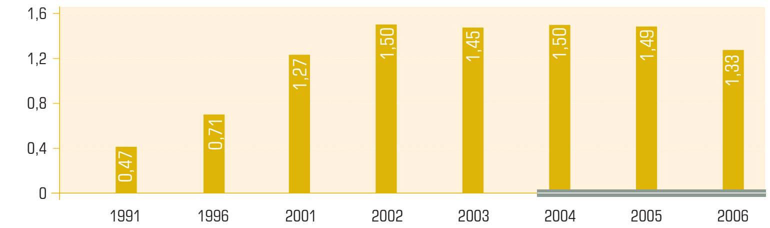
(6PP) Installed co-generation capacity (CHP)

Installed power using cogeneration (MWe)



Source: ASPAPEL / IDAE

(6PP) Generated electricity/consumption ratio



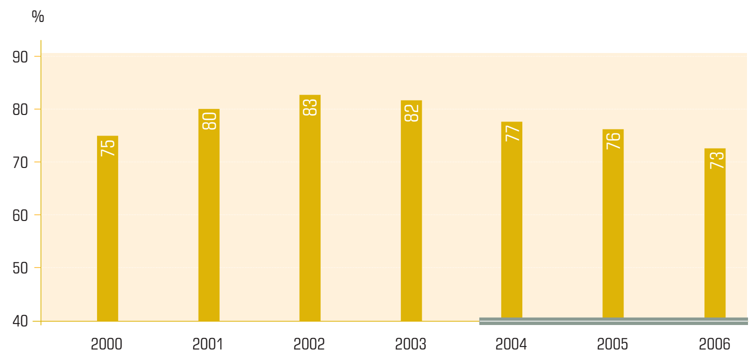
Source: ASPAPEL

Emission of greenhouse gases.
Ratio of CO_2 emissions from cogeneration over total emissions (7PP)

Despite an increase in output of 1,000,000 tonnes, **CO_2 emissions** have remained stable and indeed in 2006 **were down by 2%** compared to 2003. **Three quarters of these emissions came from cogeneration**, a ratio that has gone down over this period due to the slump that has taken place both in the energy self generated by the sector and in cogeneration generally as a result of regulation and profitability issues.

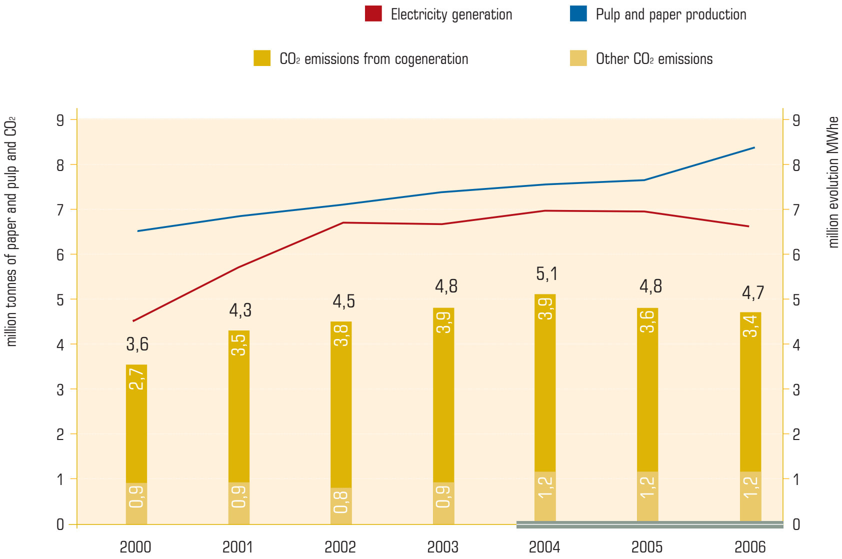
It should be remembered that the sector's determined adoption of cogeneration, a system that saves primary energy, represents a significant reduction of the overall emissions count in the country.

(7PP) CO_2 emissions from cogeneration (in % of total)



Source: ASPAPEL

(7PP) CO_2 emissions



Source: ASPAPEL

Atmospheric emissions of SO_2, NOx (8PP)

Despite increasing output of pulp and paper by 14.4%, the period under analysis saw a **significant reduction in SO_2 y NOx emissions**, which in 2006 were **8% and 6%** respectively lower than the values recorded in 2003, thanks to greater usage of cleaner fuels and the implementation of the best available technologies.

Process waste generation (9PP)

The total volume of solid waste generated by the pulp and paper industry in Spain reached **1.5 million tonnes** in 2006: for each tonne of production made by the paper sector, 0,17 tonnes of waste are generated.

Different types of waste are produced depending on the type of paper manufactured, the raw materials used and the processes employed at each mill.

(8PP) Atmospheric emissions of SO_2 & NOx

	2000	2001	2002	2003	2004	2005	2006
SO_2 emissions (expressed as S - t/yr)	5.650	5.009	5.099	5.338	5.084	7.372	4.914
NOx emissions (as t/yr)	7.859	10.466	11.085	14.408	15.259	14.465	13.583

Source: ASPAPEL

(9PP) Solid waste generation in the Spanish Pulp & Paper industry in 2006

	Generated waste (t)	% of total waste produced by P & P sector
Non-hazardous waste produced specifically by papermaking	1.303.069	88%
Other non-hazardous waste	118.504	8%
Hazardous waste	59.191	4%
Total solid waste	**1.480.764**	

Source: ASPAPEL

The waste generated by the pulp and paper making business is 96% non hazardous industrial waste, as acknowledged by the European List of Waste. Hazardous waste accounts for barely 4% and is common to other industries and businesses: oils, fluorescent lights, packaging which has contained chemicals, rags and cloths, batteries, etc.

The 1.4 million tonnes of non hazardous waste generated by the sector in 2006 is estimated to account for 4% of the total non hazardous waste generated in Spain. The non hazardous industrial waste from the paper industry are mainly associated with the paper life cycle and over 80% is waste from the recycling process at paper mills.

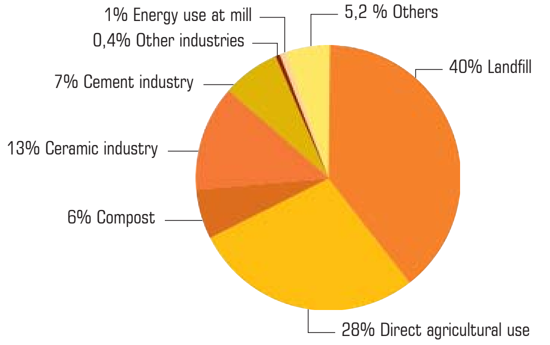
Paper production waste has an important heat value which allows it to be used as an energy source directly or to create alternative fuels. A high percentage of the waste is biomass (up to 90% in certain types), whose CO_2 emission rate is neutral when used as a fuel.

As far as **waste management** is concerned, the most common method used is **landfilling,** with a utilisation rate of **40%**, followed by **direct agricultural usage** and applications in the **ceramics industry**, with 28% and 13% utilisation respectively. Application in the **cement industry** accounts for 7%, followed by 6% that is used as **compost**. It is therefore significant that only 1% of waste can be is used as an energy source at the mill itself.

European List of Waste:
Waste from Pulp, paper and Board Production and Conversion (ELW 0303)

ELW code	Description of waste
030301	Cork and wood waste.
030302	Green liquor sludge (from cooking liquor recovery).
030305	Deinking sludge from paper recycling.
030307	Mechanically separated waste from pulp made from recovered paper and board.
030308	Waste from paper and board sorting for recycling.
030309	Lime sludge waste.
030310	Fibre waste and fibre sludge, from mechanically separated coating and loading materials.
030311	On site effluent treatment sludge different from those described under code 030310.
030399	Waste not specified in other categories.

Management of pulp & paper process waste



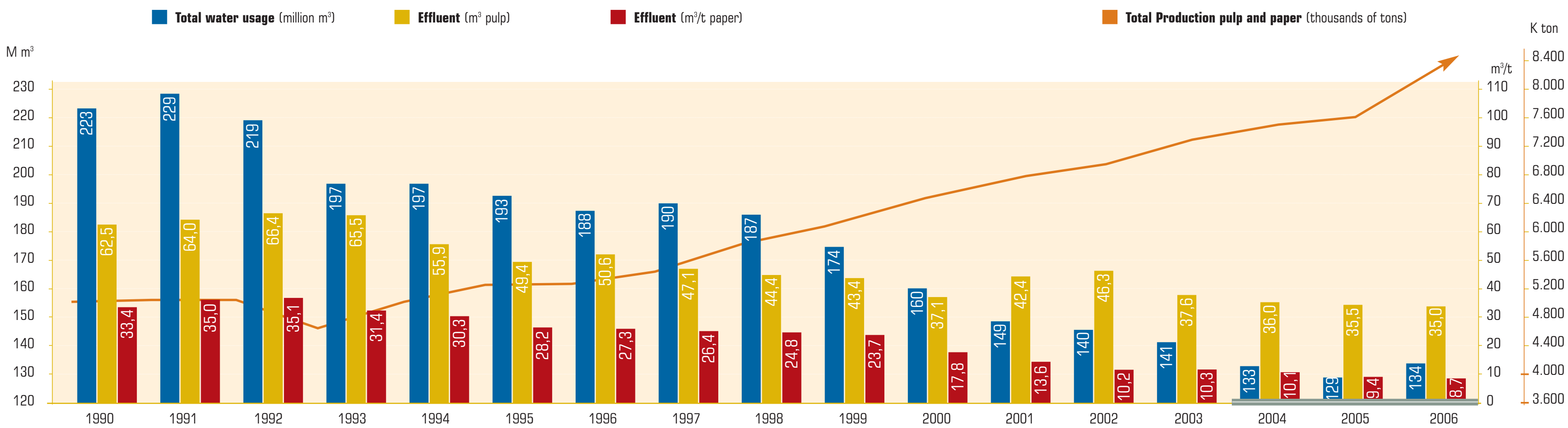
Source: ASPAPEL

Total water utilisation and effluent quality (10PP)

Despite the increase in pulp and paper output of 14.4% over the period 2004-2006, **water usage** in the production process **was reduced by 5%** from 141 million cubic metres in 2003 to 134 million cubic metres in 2006. Likewise, effluent **discharge per tonne of production** went down over the period by **7% in pulp** and **15.5% in paper.**

In the year 2006, the sector increased output by more than 68% compared to 1990, while water usage in total terms was reduced by 40% over the same period: 134 hm of water were used in 2006 compared to the 223 hm used in 1990, which represents a clear example of sustainable development.

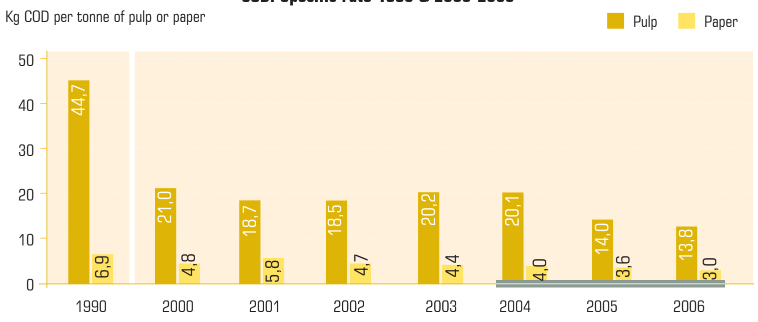
(10PP) Total water usage and discharge units for pulp and paper



Source: ASPAPEL

(10PP) Effluent quality

COD: Specific rate 1990 & 2000-2006

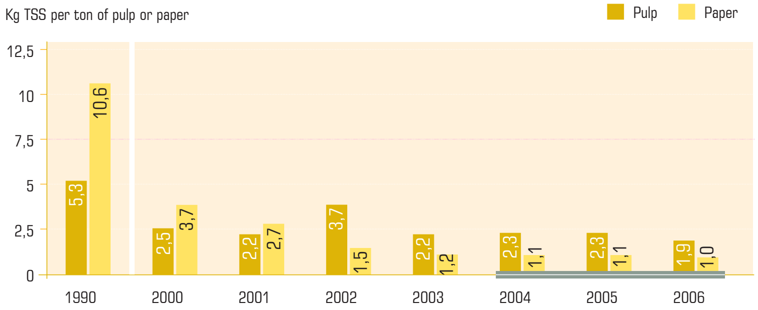


Source: ASPAPEL

The quality of liquid discharges or effluents measured in kilos per tonne of output also improved remarkably over the period. The unit load of **chemical oxygen demand** (COD) went down from **20.2 in 2003 to 13.8 in 2006** for pulp and from **4.4 to 3.0 for paper. Total suspended solids** (TSS) were reduced from **2.2 to 1.9 for pulp** and from 1.2 to 1.0 for paper. Finally, **organic halides** (AOX) produced during the manufacture of bleached pulp went down from **0,185** to **0,134.**

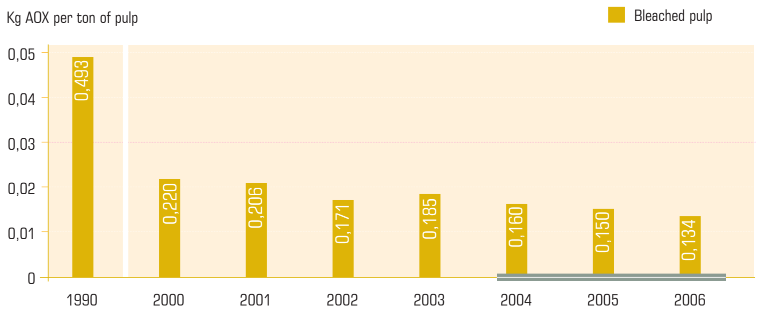
Total pollutant load (tons of COD per year) discharged by the paper sector in 2006 were 10% less than the 1990 figure, whereas output at that time stood at only 59% of today's levels.

TSS: Specific rate 1990 y 2000-2006



Source: ASPAPEL

AOX: Only for bleached pulp: Unit load 1990 & 2000-2006



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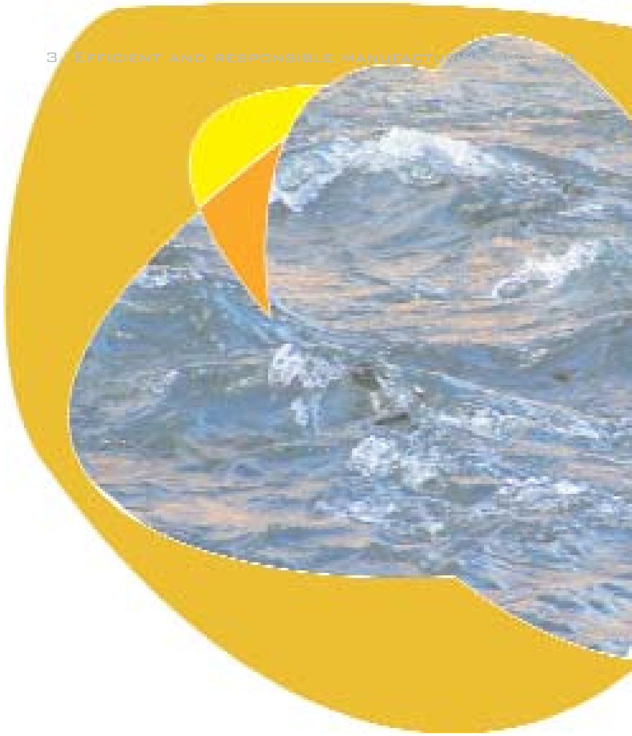
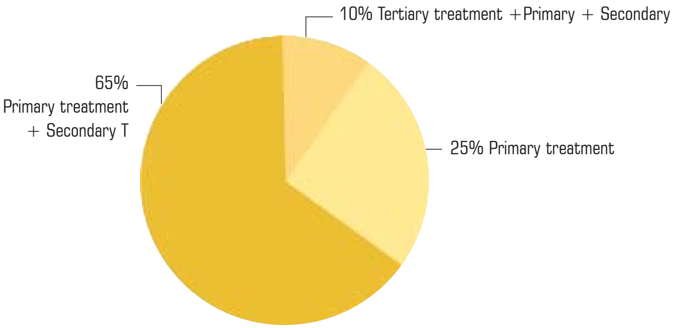


Percentage of Elemental Chlorine Free pulp production (11PP)

The use of molecular chlorine in pulpmaking in Spain has been eradicated completely. 100% of all pulp produced in Spain is either TCF (Totally Chlorine Free) or ECF (Elemental Chlorine Free).

(12PP) On site treatment of liquid effluents in the P&P sector



Source: ASPAPEL

Water treatment systems(12PP)

It is important to point out that the papermaking process uses water but does not consume water: only 5% of the water used is consumed, while the remaining 95% is returned once suitably treated.

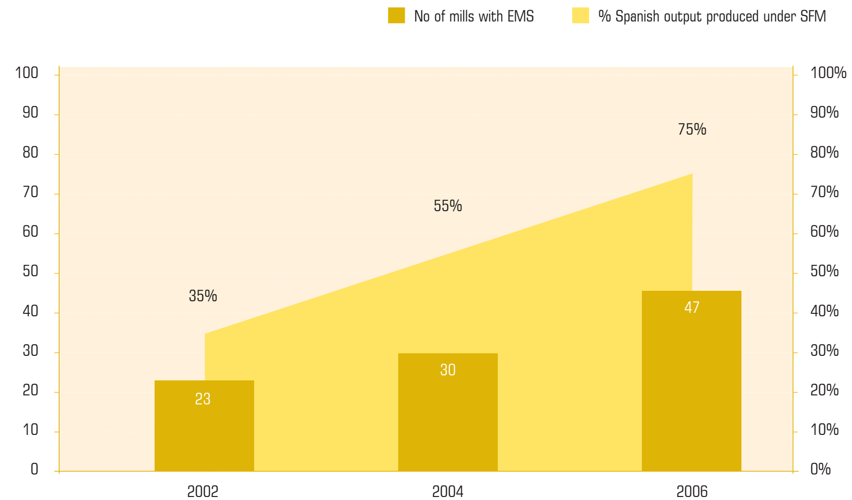
In this sense, a considerable improvement has also taken place over the period 2004-2006. **All discharges from paper mills are treated on site** and 25% of such pre-treated discharges are then further treated in general treatment plants. **In 2006, 10% of effluents were given tertiary treatment** over and above primary and secondary treatment, while **65% has secondary treatment apart from** primary treatment, and **25% were sent for primary treatment only**, percentages which in 2003 were 5%, 39%, and 52%, respectively.

Implementation of independently-certified Environmental Management Systems (ISO or EMAS) (13PP)

Environmental management systems (ISO 14.001 or EMAS) are an ideal tool for integrated management in processes such as pulp and papermaking.

In the year 2006, **75% of Spanish pulp and paper output was manufactured in mills that had environmental management systems in place.** This represents a growth of **20%** compared to the start of the period under analysis and is undoubtedly a clear example of the degree of awareness, specialisation and development of the Spanish pulp and paper sector in environmental matters.

(13PP) Number of mills with Environmental Management Systems (EMS) and % of Spanish output produced under EMS



Source: ASPAPEL

EMPLOYMENT

The characteristics of contract hiring and employment, worker rotation and motivation, training and matters referring to the prevention of occupational hazards are all key elements in the sector's sustainability strategy as they refer to the concept of responsibility in the production process.

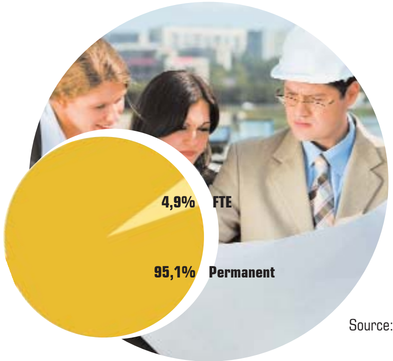
Contract hiring and employment characteristics. Creation of employment in rule or areas (14PP)

Employment in the pulp and paper industry is **highly stable** and has a **low rotation rate.** Of the 18,100 workers in the sector, 17,213 are **permanent** employees and 887 **full-time equivalents** (4,9%).

Compared to similar sectors and to the average for Spanish industry, the sector reveals a **higher level of skilled workers**. Almost all workers are full-time and the average age is 43.34 years old (43.36 for men and 43.17 for women).

The pulp and paper industry in Spain has 124 production sites distributed across the country that act as a social backbone in numerous communities, in some of which it plays a key role in generating **employment** and wealth.

(14PP) Characteristics of contract hiring and employment. Stable employment 2006



Source: ASPAPEL

(14PP) Contract and employment characteristics. 2006 Employee qualifications

Employee qualifications	
Engineers and graduates	1,7%
Polytechnic graduates and technicians	2,6%
Heads of sections and workshops	2,0%
Unskilled assistants	7,0%
Skilled workers	38,0%
Semi-skilled workers	41,0%
Unskilled workers	2,2%

Source: ASPAPEL

Rotation rate. Employee motivation (15PP)

The worker rotation rate is low although certain internal promotion based on continuous in-house training takes place, which on some occasions reaches an average of 20 hours per year per worker

The temporary employment agency utilisation rate is low, while outside sourcing is practically **zero.**

The number of employees that voluntarily leave companies does not account for more than 0.6% of the average annual workforce while the total number of incentive-based dismissals stands at around **1.5%.** The process characteristics call for full-time work shifts, a fact which is acknowledged in the rest periods and remunerations structure.

Sectorial cooperation in Health and Safety (16PP)

Throughout the period 2004-2006 and within the framework of an ambitious **Sector-wide Plan for the Prevention of Occupational Hazards**, an X-ray of the sector was first taken by means of a Situation Diagnosis, a report which covers accident rates throughout the sector and analyses the prevention management systems in place and future lines of action.

Thereafter, the tool that represents the sector's benchmark with regard to occupational hazard prevention in the pulp and paper industry was drafted. These *Model Guidelines for a Prevention Plan* come for all the legal requisites and HSE regulations applicable to the sector as well as explaining the steps to be taken to put them into place.

In a second stage, and technical assistance projects were developed at those mills implementing the Model Guidelines for a Prevention Plan, in which nearly 30 companies took part. Furthermore, a handbook was written entitled *Manual for improved safety with papermaking machinery*

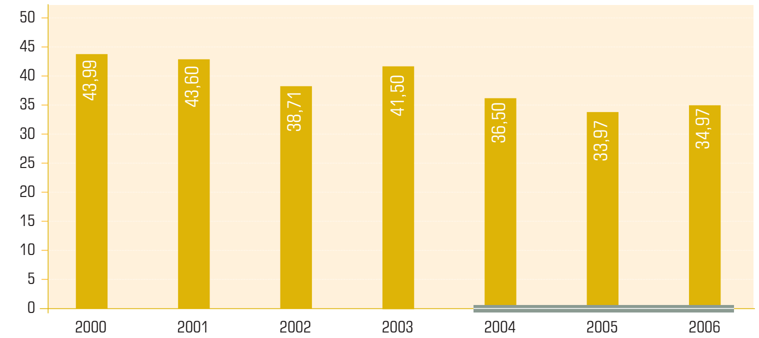
The whole programme was designed and monitored in conjunction with the FCT-CC.OO. and FIA-UGT trade unions.

Accident rates (severity and frequency).
Nº of occupational accidents (17PP)

In the period 2004-2006, the steady **downward** trend in the **number of accidents** was maintained throughout the sector. Accident frequency rate went down from 41.5 in 2003 to 34.97 in 2006. And the near-miss rate dropped from 70.1 to 58.17 at the end of the same period. However, a significant **increase in severity rates** was recorded in 2006 as a result of three fatal accidents.

(17PP) Frequency rate

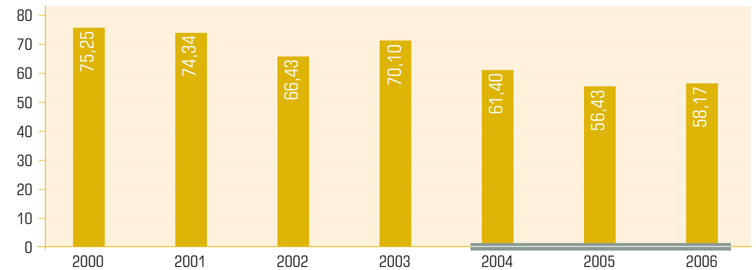
Frequency rate = nº of accidents with loss of work time per thousand hours' paid work



N.B.: The discrepancy with the data from the previous memorandum is due to improved calculation methods. Source:IPE

(17PP) Near-miss rate

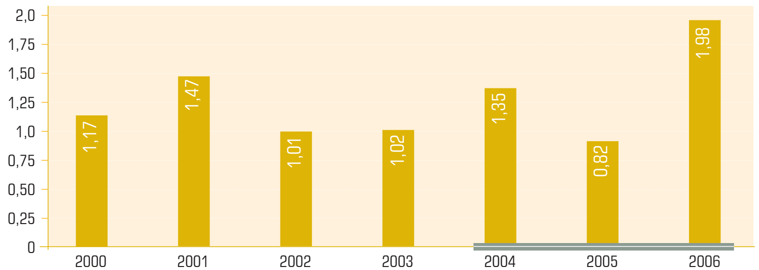
Near-miss rate: nº of accidents with loss of work time per thousand employees



N.B.: The discrepancy with the data from the previous memorandum is due to improved calculation methods. Source:IPE

(17PP) Severity rate

Severity rate = number of work days lost per accident per thousand hours' normal working



N.B.: The discrepancy with the data from the previous memorandum is due to improved calculation methods. Source:IPE

OBJECTIVES AND ACTION PLANS

Fulfilment of previous objectives

As far as developing **cogeneration** is concerned, the situation with regulation and escalating costs made fulfilling the overall growth objective difficult, so that installed power grew by a mere 6% and the ratio of electricity generated by the sector over total consumption went down from 1.45 in 2003 to 1.33 in 2006. Nevertheless, the new legal framework approved in the country opens a scenario that is more favourable for growth.

The sector's contribution to fulfilling the Kyoto Protocol has led to a reduction in CO_2 emissions of 2% compared to the year 2003, despite increasing output by 1,000,000 tonnes. The same period has also seen a significant reduction in emissions of SO_2 and NOx, which in 2006 were 8% and 6% respectively lower than in 2003.

The objective of improving **sector-wide statistical treatment of proces waste** has been achieved thanks to the Diagnosis of Solid Waste Generation and Management in the Spanish Pulp and Paper Industry, and the design and implementation of a data gathering system using individual electronic questionnaires. The number of companies collaborating in this scheme account for 100% of pulp production and 87% of paper production, which therefore provides a valuable instrument with a view to minimising generation and increasing the effective value of process wastes. Nowadays, 0.17 tonnes of waste is generated per tonne of output and 60% of paper-based waste is valorised, although insufficient statistical data is available to analyse evolution over the period.

In 2005, the Ministry for the Environment and ASPAPEL signed a Voluntary Agreement concerning Waste Water Discharges, which has come to represent a strong boost to reducing the amount of water discharges and improving their quality. As far as reducing discharges is concerned, despite increased output of 1 million tonnes, water usage has been reduced by 5%. Effluents per tonne of production came down by 7% in the pulp sector and by 15.5% for paper. Likewise, effluent quality has evolved very positively over the period under analysis in this memorandum: unit charge of COD went down from 20.2 to 13.8 for pulp and from 4.4 to 3.0 for paper; TSS were reduced from 2.2 to 1.9 in pulp and from 1.2 to 1.0 in paper, while AOX has been reduced from 0.185 to 0.134.

Another objective that has been fulfilled is that of **total eradication of the use of elemental chlorine** in pulp bleaching.

The objective that called for 65% of the sector's output in 2007 to be produced according to the norms of a **Certified Environmental Management System** has also been achieved, as the index had already reached 75% in 2006.

New objectives and actions

As far as the question of energy is concerned, the new objectives established for the sector include **increasing cogeneration by 100 MWe** and improving energy efficiency.

With regard to process generated waste, apart from minimisation, the objective calls for reducing by **50% the amount of waste destined for landfills by the year 2012** and increasing **energy uses of waste products by 20% by the year 2015.**

Other challenges to be faced in the coming years include developing the Voluntary Agreement between the Ministry for the Environment and ASPAPEL and ensuring that **80%** of the sector's output is produced under a certified **Environmental Management System.**

The priority objective in employment matters is to reduce **accident rates**, as well as two new objectives that arose as part of the consultation process with stakeholders: improving information about **occupation-related illnesses** and the participation of workers in environmental management.

		2004-2006 Objectives	Fulfilment of 2004-2006 objectives	New objectives	New action plans
Efficient and responsible manufacturing processes (PP)	5	Increase cogeneration in sector and improve energy efficiency Sector contribution to Kyoto Protocol in Spain	- Installed power grew by a mere 6% And ratio of electricity generated by the sector over overall consumption went down from 1,45 in 2003 to 1,33 I n2006 due to regulation and profitability issues, - Despite 14,4% increase in production, CO_2 emissions went down by 2%	Increase cogeneration in the sector by 100 MWe Sector's contribution to Kyoto Protocol Fulfilment in Spain	- Sectorial program for energy efficiency
	6	Minimising process generated waste	- 0,17 tons of waste are generated per ton of product Insufficient statistical data exists to monitor evolution throughout the period	Minimise process generated waste Reduce contaminating materials in recycling circuit	- Quality control of recovered paper
	7	Increase valorisation usage of waste and reduce landfilling	- 60% of P&P waste reutilised. Insufficient statistical data exists to monitor evolution throughout the period	Increase waste valorisation and reduce landfilling • Reduce waste on landfills by 50% by 2012 • Increase waste re-use for energy up to 20% by 2015	- Draft *Manual of Process Waste Management* - Publish *Guidelines to Best Available Technologies for Process Waste Management* - *Voluntary agreements*
	8	Improve statistical database by the sector of generated waste	- Elaboration of *Diagnosis of solid waste generation and management in Spanish P&P sector*		

		2004-2006 Objectives	Fulfilment of 2004-2006 objectives	New objectives	New action plans
Proceso Productivo, Eficiente y Responsable (PP)	9	Reduce liquid effluents and improve quality	- Despite 1 million ton increase in production: • Water usage reduced by 5% • Effluent per tonne reduced by 7% for Pulp and by 15,5% for paper - Discharge quality • DQO: 32% less • TSS: 14% less for pulp and 17% less for paper. • AOX: 28% less - Voluntary agreement on Discharges with Ministry for the Environment -ASPAPEL	Reduce liquid discharges and improve quality	- Develop voluntary agreement with Ministry Environment -ASPAPEL
	10	Eradicate completely the use of elemental chlorine in pulp bleaching by 2007	- Use of elemental chlorine eradicated	———	———
	11	65% of sector's output under certified Environmental Management System by 2007	- In 2006: 75% of all output EMS certified	80% of output to be EMS certified Worker participation in environmental management	- Include two specific professional categories in workers' agreement: Manager and technician on environmental issues
	12	Reduce accident rates in sector's mills	- Frequency rate dropped from 41,5 to 34,97 - Near-miss rate dropped from 70,1 to 58,17 - Significant increase in severity rate in 2006, due to 3 fatal accidents.	Reduce accident rate Improve information about occupational illness	- Sectorial Program for Prevention of Occupational Hazards

Leadership in Collection and Recycling

The healthy results obtained in recent years with regard to paper and board recycling have been possible thanks to the efforts of citizens, public administrations and the pulp and paper sector itself, which behaves proactively through recycling promotion programmes such as *Tu papel es importante*. The Spanish pulp and paper industry is also number one in recycling in the European Union and guarantees that all paper and board collected separately from other waste will be recycled.

Collection and recycling

Cellulose fibre from the wood, a natural and renewable resource, is the main raw material for papermaking. When used for the first time, this fibre is known as a virgin fibre, but when it is re-used through recycling several times, it is known as recovered or recycled fibre.

The cellulose fibre cycle stays alive and works thanks to the continual addition of a certain amount of virgin fibre, as cellulose fibre deteriorates with successive usage. Furthermore, 19% of the people we use cannot be collected for recycling because we keep it, as is the case of books, or because, given its inherent use, it is deteriorated or destroyed, such as toilet and health care papers.

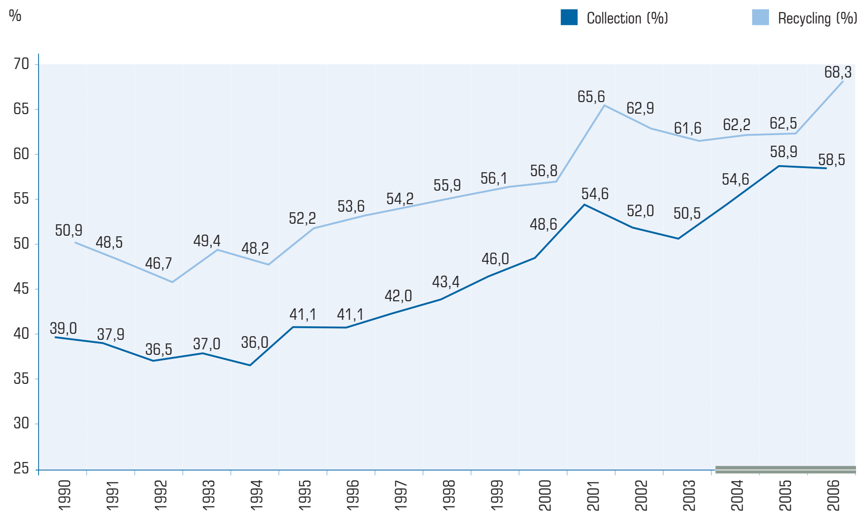
EVOLUTION OF INDICATORS

Collection rate (19LR)

Used paper is not rubbish, it is a 100% recyclable material, so that each should not end up on a rubbish tip but be collected separately from other waste to avoid staining and contamination and thereby making it easier to recycle.

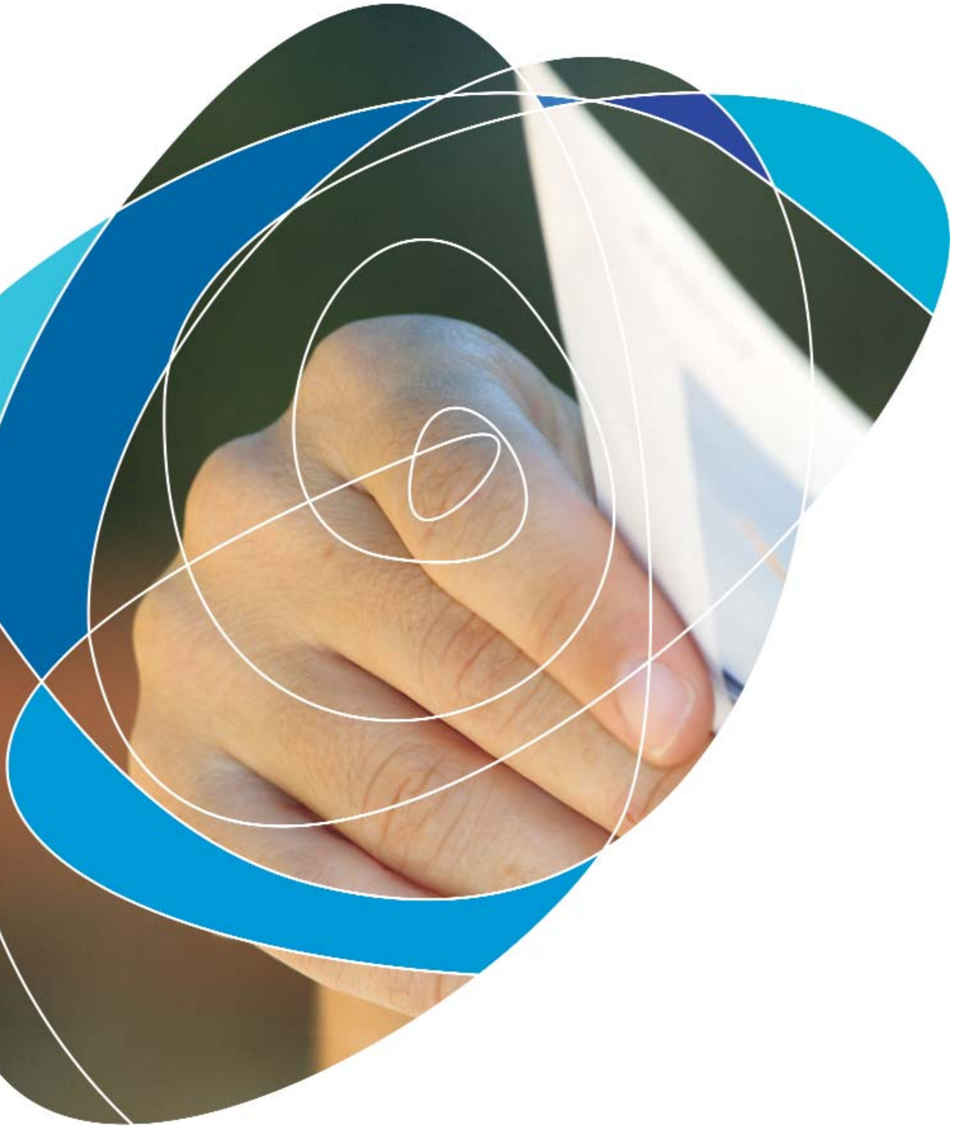
When paper is separated from other waste and deposited in the blue bin, we contribute to improving the use of natural resources and reducing waste, landfills and greenhouse effect gases which cause global warming.

(18LR / 19LR) Recycling and collection rates 1990-2006



Recycling rate: consumption of paper recovered as a raw material / total paper and board consumption.
Collection rate: collection of used paper / consumption of paper and board.

Source: ASPAPEL



Apart from domestic paper, which is collected in the blue bin, the selective collection by municipalities of paper and board is complemented by the door-to-door collection of board from retail outlets, collections at schools, public buildings etc and through industrial collection, paper and board is collected from printers, large retail outlets and wholesalers...

The recovery rate, which in 2003 stood at 50.5%, **grew to 58.9% in the period 2004-2006**. We now recover for recycling almost 60% of all the paper we consume and we are in line with the European average (63,6%).

For the period 2004-2006, used paper collection for recycling increased by 1,000,000 tonnes, from 3.6 million tonnes in 2003 to 4.6 million tonnes recovered in 2006, which represents an increase of 27%.

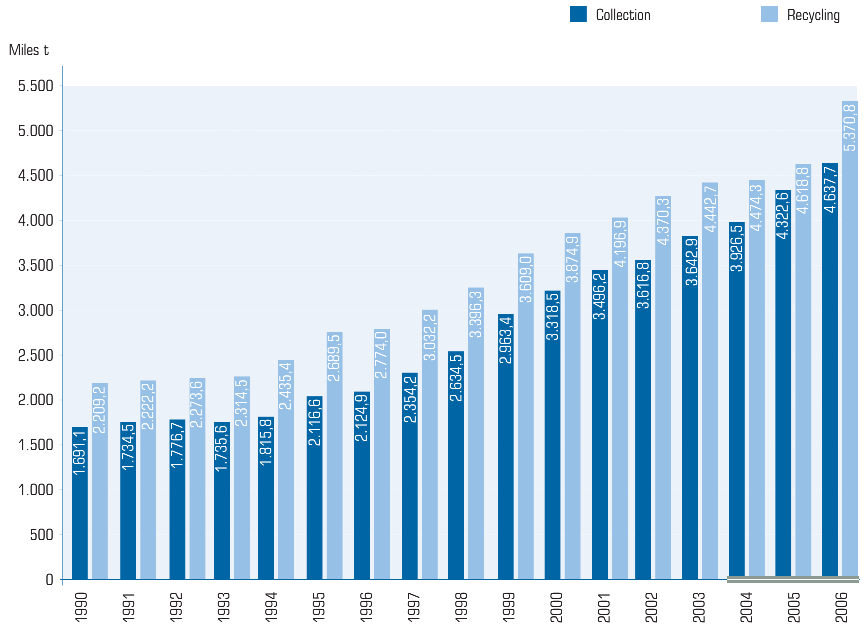
The **4,6 million tonnes per year of used paper and cardboard collection for recycling in Spain represent a saving on rubbish tip volumes equivalent to 46 large size, fully packed football stadiums such as the Bernabeu or Camp Nou** and prevents the emission from landfills of 4.1 million tonnes of CO_2 (more than 1% of total emissions produced in the country).

Recycling rate (18LR)

A growing number of citizens now collaborate with recycling by depositing their used paper and cardboard in blue beans. Their efforts are very worthwhile, because the Spanish pulp and paper industry guarantees that all paper and cardboard that is selectively recovered will be recycled. By selective collection it is understood that the paper and cardboard is collected separately from other waste.

The used paper and cardboard citizens deposit in the blue bin is collected by a lorry and taken to a recovery store, where it is sorted, cleaned, packed into bales and sent to the paper mill. At the mill, the used paper is mixed with water and stirred. The cellulose fibres are separated from staples, plastics.... before being fed to the paper machine, where they form a wet sheet from which water is gradually eliminated to obtain the reel of paper.

Paper & board collection and recycling 1990-2006



Source: ASPAPEL

In this way, when we deposit a newspaper that we have read in the blue bin, we will have it in our hands again the following week as the material on which the latest news reaches us. In the same way, a cardboard box that we fold and put into the blue bin is converted into a new box which will be used to pack other products.

The **recycling rate**, which in 2003 stood at 61.6%, **grew over the period 2004-2006 to 68.3%.** We now recycle almost 70% of the people we consume, which puts us above the European Union average (56,3%) and among the leading group together with Austria, Sweden and Germany.

The volume of recovered paper that is recycled each year by the Spanish paper industry has grown by 1,000,000 tonnes from the 4.4 million tonnes and recycled in 2003 to 5.4 million tonnes recycled in 2006. **Significant capital** investment on new installations have made possible this **20% growth in recycling capacity,** which has also had a positive effect by increasing the sector's workforce.

The Spanish paper industry recycles all the used paper separatelly collected in Spain as well as an additional million tonnes imported from other countries.

Sector's involvement in promoting collection and recycling (20LR)

The positive results obtained in the last few years in paper and board recovery are the result of the collective efforts of citizens, public administrations and the paper industry itself.

A clear example of this collaboration is the programme known as **Tu papel es importante** (your paper is important), an initiative developed by ASPAPEL for continual improvement in paper and board recovery which includes a diagnosis system, the implementation of improvements and certification of municipal selective recovery of paper and cardboard, to strengthen recovery from blue bins and develop complementary formulae in those areas where room for improvement has been detected: mainly in offices and schools, small retail outlets and domestic households.

A prominent part of this project was the action plan carried out with Town Councils known as Tu papel 21, a system of diagnosis, implementation of improvements and certification of selective paper and board recovery by town councils based on 21 indicators and backed by social and communication models following the Agenda 21 guidelines.

At present, **15** town councils throughout Spain **have obtained certification** and over **70** are currently following the certification process and implementing improvements.

In 2007, the Program was given the **European Paper Recycling Award**, granted by the European Paper Recovery Council, a prize that pays tribute to initiatives from NGOs, local authorities, industries, teaching institutions,... that develop innovative projects to promote paper recycling throughout Europe.

ASPAPEL certified Town Councils *Tu papel 21*[*]

Certificate Nº	Town councils certified by ASPAPEL as part of *Tu papel 21*
001-2005	Fuenlabrada
002-2005	Mancomunidad de la Comarca de Pamplona-Iruña
003-2005	Mancomunidad de San Marcos (San Sebastián-Donostia)
004-2005	Lérida-Lleida
005-2005	Oviedo
006-2005	Reus
007-2005	Granada
008-2006	Ciudad Real
009-2007	A Coruña
010-2007	Bilbao
011-2007	Pozuelo de Alarcón
012-2007	León
013-2008	Palma de Mallorca
014-2008	Mancomunidad de Municipios de la Costa del Sol Occidental
015-2008	Barcelona

(*) March 2008

OBJECTIVES AND ACTION PLANS

Fulfilment of previous objectives

The sector set itself the ambitious objective of reaching a paper and board **collection rate** of 65% by 2007 starting from the 50.5% recorded in 2003.

In the period **2004-2006 this rate was improved by 9% and is now close to the 65% target.**

Recycling of all additional recovered paper was the second objective that the sector had set for itself with regard to this axis of its sustainability strategy. This objective was also fulfilled between 2004-2006 with an increase in the sector's recycling capacity of 20%.

The *Tu papel es importante* program was held to be one of the basic actions for the achievement of these objectives and undoubtedly, the excellent results obtained in paper and board recovery in recent years has a lot to do with the improvements that were implemented and are still being implemented in selective recovery systems in the more than 70 town councils that participate in the programme.

New objectives and actions

Now that the historical backwardness in paper collection has been overcome and we are now in line with the European average, the objective for **2007-2009** is to position ourselves in the group of leading countries in paper and board recovery, currently performed by Switzerland, Norway, Germany, the Netherlands and Austria, all of which have **collection rates of over 70%**.

As a result of the dialogue with stakeholders prior to writing this Memorandum, ASPAPEL has assumed the commitment of strengthening and expanding its communication programmes in recovery and recycling matters.

At the same time, it will continue to implement the improvement model for selective paper recovery in town councils through its *Tu papel es importante* programme.

		2004-2006 Objectives	Fulfilment of 2004-2006 objectives	New objectives	New action plans
Leadership in Recovery and Recycling (LR)	**13**	Recycling of all additional paper recovered	- Increase the sector's recycling capacity by 20%	Maintain recycling rate over 60%	- Strengthen and expand sector's communication activities in recovery and recycling matters
	14	Increase collection rate to 65% by 2007	- In 2004-2006, the rate improved by 9% to reach 58,9% - Progress towards 65% target	Achieve collection rates of over 70% to join leading countries in recovery and recycling	- Continue implementing improvement models for selective paper recovery in town councils through the *Tu papel es importante* programme

Generation of wealth and contribution to living standards

The Spanish pulp and paper industry comfortably surpasses average growth for the sector in Europe and is also growing above Spanish GDP. The sector invests heavily, creates stable and skilled employment, and contributes to generating wealth as part of its clear commitment to sustainability.

Natural, renewable and recyclable paper-based products are present in culture, the arts, education, communications, healthcare, personal hygiene, transport and goods trading ... and contribute to our citizens' standard of living.

Generation of wealth and contribution to standards of living

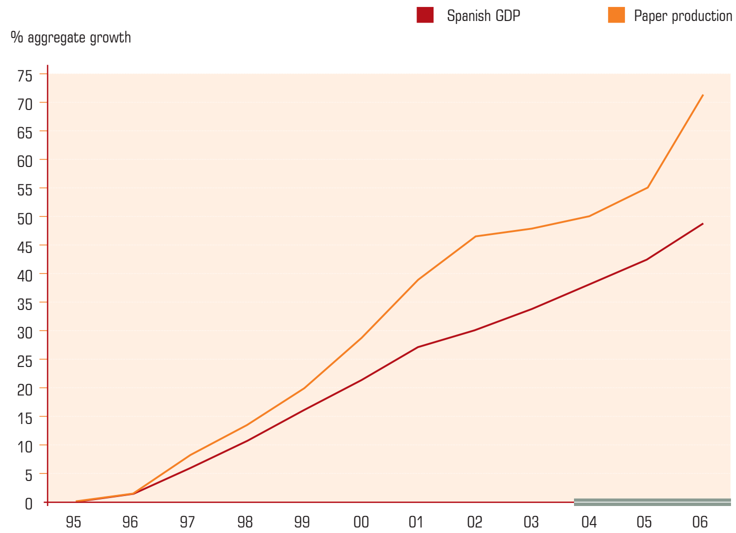
Through its commitment to sustainability, the pulp and paper industry contributes to improving living standards, both as a sector that invests heavily and is in full expansion and through its products, which are omni-present in our daily lives.

EVOLUTION OF INDICATORS

Sector growth compared to GDP (21GR)

Paper and board production in Spain continues to grow above GDP. Over the period **2004-2006**, aggregate growth of Spanish Gross Domestic Product was 11.1%, whereas **the pulp and paper sector grew by 16.8%, nearly 6 per cent above GDP**, despite the modest growth recorded in the first year of this period.

(21GR) Sector growth compared to GDP. 1995-2006



Source: ASPAPEL - INE

(23GR) Paper sector turnover (in million Euros)

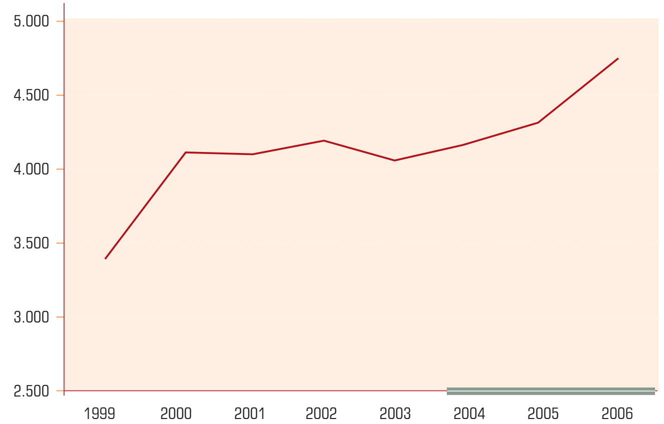
	2004	2005	2006
	4.133	4.375	4.700

Source: ASPAPEL

Capital investment in the sector (22GR)

Over the period 2004-2006, the sector has carried out capital investments on new installations to a value of **1200 million euros as well as modernising existing installations, and has increased its installed capacity by over 1,000,000 tonnes and its workforce by 350 employees.** The largest increases in capacity and have taken place in newsprint, personal hygiene and health care papers and papers for corrugated board.

(23GR) Turnover (in million Euros)



Source: ASPAPEL

Turnover (23GR)

Over the period 2004-2006, the situation of the pulp and paper sector worldwide has not been especially good. Generally, price levels have not developed in line with the significant increases in energy costs, chemicals, labour, etc. Thus, in Spain, with an aggregate increase in paper production volume of 16.8%, the countervalue expressed as **turnover** for the sector **grew by 14.7%.**

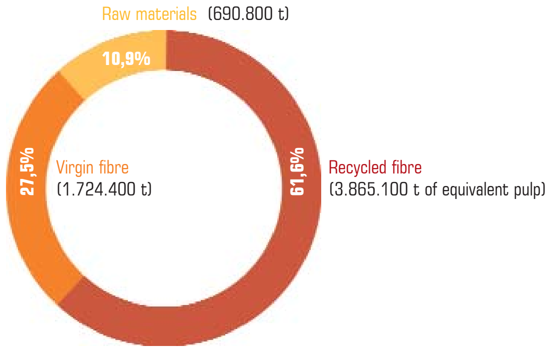
Raw material procurement (24 GR)

The raw materials used for all papermaking, based on 2006 data, account for **7,550,000 tonnes of virgin cellulose fibre, recycled fibre and auxiliary materials** such as kaolin, sodium carbonate, starch, etc. Over the period **2004-2006, purchases of recovered fibre grew by 21%, compared to the increase in virgin fibre procurement of 16%.**

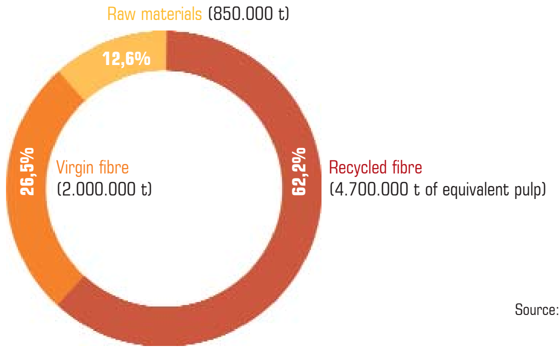
The great significance of recovered fibre is due to the structure of the Spanish paper industry, where the predominant grades are papers for packaging using recovered fibre and newsprint, which is also made exclusively with recovered fibre. With regard to virgin pulp, domestic production (2.037.700 tonnes) equals consumption, although a high level of exports, similar in tonnage to imports, still exists.

(24GR) Raw material procurement (in %)

TOTAL 2003 = 6.280.300 t



TOTAL 2006 = 7.550.000 t



Source: ASPAPEL

Geographical distribution of sales. Trade balance (25GR)

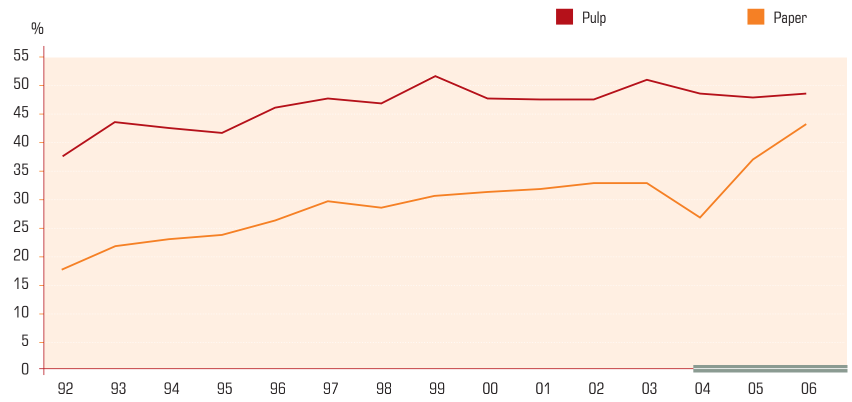
Pulp exports have remained at very high levels of many years and represent almost **50% of total output.** Spain is the fourth largest exporter of pulp in the European Union and one of the top 10 in the world.

With regards to paper, evolution over the period 2004-2006 was very positive: **paper exports** accounted for 44% of output in 2006, compared to 34% in 2003, due mainly to the increase in production capacity. Nevertheless, paper imports continue to be highly significant: in 2006 4.3 million tonnes of paper were imported, which represents 55% of consumption levels.

In 2006, the main export markets for pulp and paper were the **EU (77,6%), followed by Asia, (7,8%).** Within the EU, France holds the first position, followed by Portugal and Italy. A significant increase has been seen in exports to Poland, which now stand at 2.8%, when in previous years the amounts were merely testimonial.

(25GR) Geographical distribution of sales. Trade balance

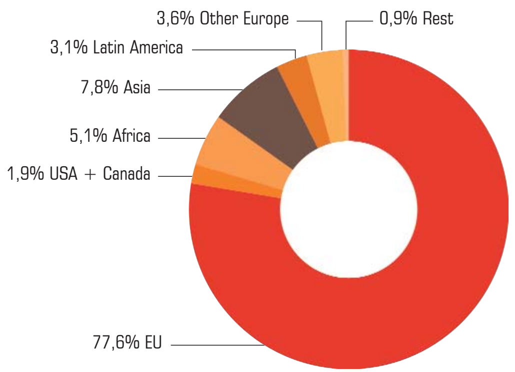
Evolution of export rate (% exports / production)



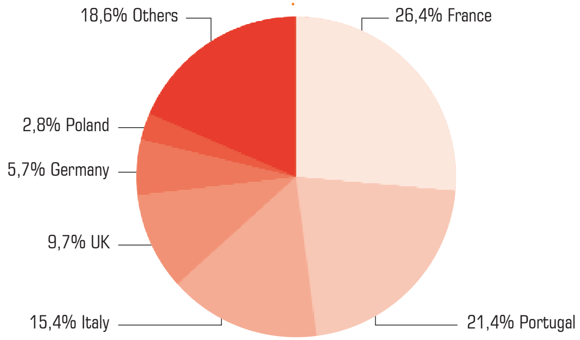
Source: AEAT, ASPAPEL

Destination of pulp & paper exports. 2006

Total exports 2006



EU (77,6% of total)



Direct/indirect employment (26GR)

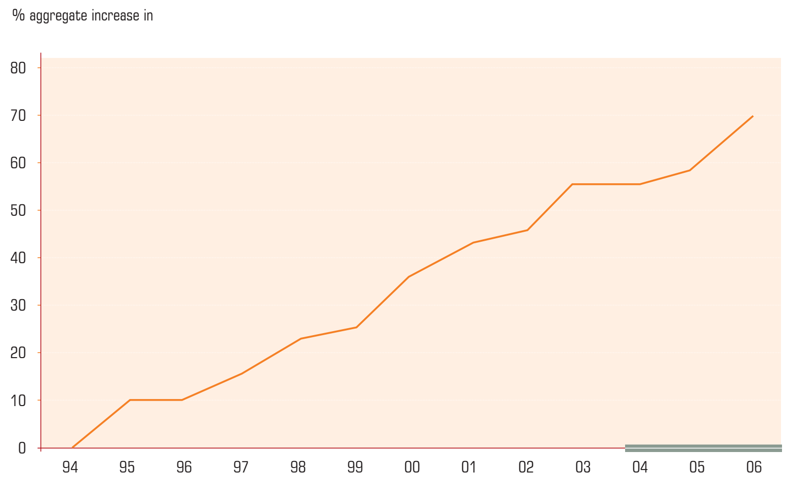
Direct employment in the sector, based on 2006 data, stands at **18,100 employees, with an increase of 350 jobs (2%)** in the period 2004 - 2006, as a result of new installations coming on stream that have led to increased production capacity. **Indirect employment** can be estimated at around **90,000 people.**

Due to a large extent to the high-technology that the production process requires and which calls not only for a high level of skills but also of expertise, employment in the sector remains stable with a low level of rotation.

Employee productivity (27GR)

Productivity, measured as the number of times produced per worker per year, reflected an aggregate **increase of 9.2%** over the period **2004-2006** to reach 463,6 tonnes/worker/year. This improvement can be attributed to a large extent to the sector's modernisation process, with new plants coming on stream and existing installations being retrofitted.

(27GR) Paper sector Productivity



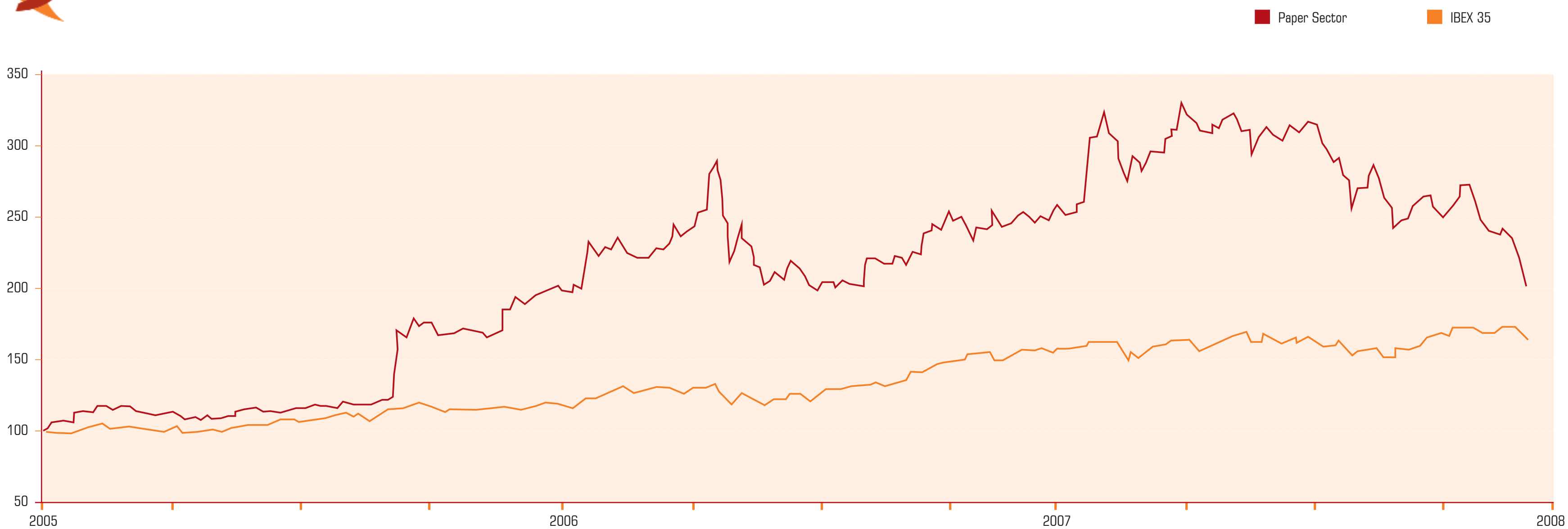
Source: ASPAPEL

Stock market performance of listed companies (28GR)

The stock market performance of the pulp and paper sector overall, taking into consideration the average for all listed companies, has been clearly positive and much higher than the IBEX 35 index, which is a clear indication of investors' favourable attitude and interest.

The average for the sector's companies in 2005 showed growth of 187%, while the IBEX 35 index reached 115 (taking 100 as the index at the beginning of the year). The sector's performance on the stock market in 2006 was spectacular: in March and May it reached values of 240 and 247 respectively, even though the IBEX 35 did not go over 127. This rise was maintained and in November stood at 257 compared to the IBEX 35 rating of 157.

(28GR) P&P sector - IBEX35, Base 100



Paper consumption and living standards Paper consumption / GDP (29GR)

Over the period 2004-2006, GDP showed aggregate growth of 11,1%, whereas **paper consumption grew by 9%, almost in line with GDP**, as a true reflection of the economic boom in Spain.

The most developed countries, those with the highest GDP per capita, are also those that have the highest paper consumption rates per inhabitant in today's modern world. Spain, with 176 kilograms per inhabitant, holds the 25th position in the world ranking of per capita paper consumption and is placed 13th in the EU. The ranking is led by Luxemburg (358 kg), Belgium (354 kg), Finland (324 kg and the USA (301 kg).

With its large variety of end products, paper has many specific applications that respond to very closely defined needs in fields such as communications, education, personal hygiene and health care, trade, transport...

As with other commodities (such as energy for example -- even when it comes from renewable sources), paper wastage needs to be avoided by means of **responsible consumption.** However, the solution does not seem to lie in replacing a natural, renewable and recyclable product such as paper with other products that do not have such environmental advantages. Nor would it be of any benefit to the environment to choose solutions like bulk consumption to reduce packaging, a solution which does not offer any of the advantages offered by paper and board packaging such as product protection, hygiene, or consumer information.

On the other hand, **measures aimed at responsible consumption** do indeed make a significant contribution, such as recovering paper for recycling, making maximum use of cellulose fibre through successive usage, the development of R+D solutions which, like the reduction of paper weights without damaging its mechanical strength, etc., make more efficient use of current resources; the application of increasingly cleaner technologies that enable manufacturing processes to save water, energy,..., and generally more efficient usage of raw materials. Undoubtedly, this is all of interest when taking procurement decisions or defining Corporate Social Responsibility strategies.

Initiatives, such as the one carried out by the cardboard sector with wholesalers to develop packaging that is ready for sale and which replaces traditionally transported packaging while also serving as a display case, are without doubt important steps in the right direction to offering paper-based products that meet consumer needs with the lowest possible environmental impact.

The paper sector and social action (3OGR)

Within the framework of their corporate social responsibility strategy, companies in the sector perform numerous and diverse **actions as sponsors and financiers of NGO projects... in the field of education, culture, sports, social assistance, etc.**

In this respect, in the period 2004-2006, many companies developed and financed environmental education programmes in collaboration with town halls, as well as sponsoring local football from cycling or other sports clubs, cultural activities such as concert seasons, financing rehabilitation and remodelling works of local artistic heritage, sponsoring museums such as the "Molí Paperer" Museum in Capellades; collaborating with different NGOs, etc.

Another important line of action for companies in this sector is to participate in forest projects aimed at restoring ecosystems of a special ecological value.

On the sector level, the activities carried out by Aspapel in the field of education through its *Edufores* programme in forestry education and the *Tu papel es importante* scheme for recycling training are worthy of special mention.

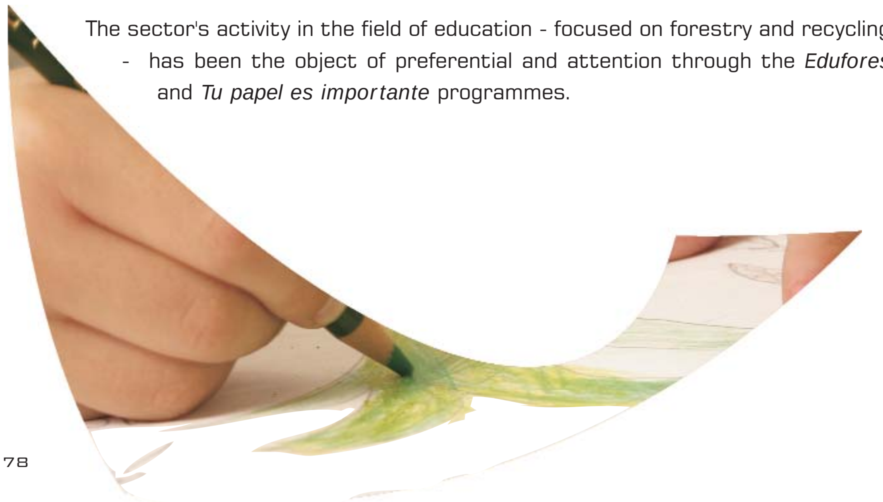
OBJECTIVES AND ACTION PLANS

Fulfilment of previous objectives

In this field, the sector is setting itself four objectives for the period 2004-2006: **to develop and modernise the sector by increasing installed capacity, to contribute to forestry education and education about recycling and to intensify relations with stakeholders.**

With regard to the first objective, following the **1.2 billion Euro outlay in new installations incorporating the best available techniques** (BAT), production capacity has successfully been increased by more than a million tons.

The sector's activity in the field of education - focused on forestry and recycling - has been the object of preferential and attention through the *Edufores* and *Tu papel es importante* programmes.



As far as relations with stakeholders are concerned, contacts and communications have been intensified through continuing with action plans that had been started in the period prior to 2004-2006 (open sessions, publications, presence on the Internet), as have new initiatives.

The collaboration among organisations along the paper chain has been strengthened by constituting a joint communications platform. This platform, known as the **Paper Forum,** includes the participation of AFCO (Spanish Association of Corrugated Board Packaging Manufacturers), PRO CARTON, ASPACK (Spanish Association of Manufacturers of Cardboard Packaging and Converted Products), ASPAPEL (Spanish Association of Pulp, Paper and Board Manufacturers), RECIPAP, FEIGRAF (Confederation Of Graphic Industry Business in Spain) the Spanish Federation of Publishing Guilds, ANELE (The National Association of Schoolbook and Educational Material Publishers) and ASSOMA (The Spanish Association of Manufacturers of Envelopes and Paper and Board Products for Education and the Office).

A significant step forward in relations with stakeholders was the creation in 2005 of the **Paper Industry's Observatory of Competitiveness**, in which the main trade unions FIA-UGT and FCT-CCOO participate with ASPAPEL. Its main objective is to work together in a co-ordinated fashion on activities that may help to improve the competitiveness of the Spanish paper sector and its companies.

New objectives and action plans

As a result of the dialogue with stakeholders held prior to preparing this memorandum, ASPAPEL assumes the commitment of strengthening initiatives aimed at providing both large sized companies and public institutions and the general public with balanced information and clear **guidelines on paper and board consumption and recycling** as part of its corporative social responsibility and sustainable development strategy.

At the same time, it will enhance consumer information about eco- labelling, carbon footprints, environmental requisites for papers, etc. through a diversity of initiatives.

		2004-2006 Objectives	Fulfilment of 2004-2006 objectives	New objectives	New action plans
Generation of wealth and contribution to living standards (GR)	**15**	Development and modernisation of sector Increase installed capacity	- Investment of 1.2 billion Euros in new installations and expansion projects to incorporate BATs - Production capacity increased by over 1 million tonnes	Develop and improve sector's competitiveness	
	16	Contribute to forestry education	- Learning materials developed and distributed through the Edufores Foundation	Contribute to forestry education	- Strengthen *Edufores* programme
	17	Contribute to education about recovery and recycling	- Workshops set up in schools - Materials and eco-paper bins created and distributed	Contribute to education on recovery and recycling	- Strengthen *Tu papel es importante* programme
	18	Intensify relations with stakeholders	- Open Sessions, publications and presence on the Internet - Creation of collaboration platform: the Paper Forum and the Paper Industry's Observatory of Competitiveness	Intensify relations with stakeholders Enhance information about responsible consumption and environmental requisites for papers	

Glossary of abbreviations:

AEAT: Spanish Tax Authorities
AOX: Adsorbable Organically Bound Halogens
ASPAPEL: Spanish Asssociation of Pulp, Paper and Board Manufacturers
BAT: Best Available Techniques
CEPI: Confederation of European Paper Industries
CO2: Carbon dioxide
DQO: Chemical Oxygen Demand = COD
ECF: Elemental Chlorine Free
EEUU: Estados Unidos = USA
EMAS: Ecomanagement and Audit System
GF: Spanish abbreviation of Sustainable Forest Management
GR: Generation of wealth and contribution to improved living standards
GRI: Global Reporting Initiative
IDAE: Institute for Energy Diversification and Savings
IPE: Spanish Paper Institute
ISO: International Organization for Standardization
LER: European List of Waste Materials
LR: Leadership in Recovery and Recycling
MWe: Megawatts of electricity
NOx: Nitrogen oxides
PIB: Gross Domestic Product GDP
PP: Efficient and Responsible Manufacturing Processes
RINP: Non-hazardous Industrial Waste
SGM: Environmental Management System
SO_2: Sulphur dioxide
SST: Stotal suspended solids
t: tonne
TCF: Totally Chlorine Free (Totalmente Libre de Cloro)
UE: European Union

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