

RECOVERED PAPER DATA 2001



RECOVERED PAPER DATA, 2001

FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS

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TABLE OF CONTENTS

<i>INTRODUCTION</i>	<i>1</i>
<i>DEFINITIONS OF TERMS USED</i>	<i>1</i>
<i>RECOVERED PAPER TRADE</i>	<i>2</i>
<i>RECOVERED PAPER UTILIZATION FOR PURPOSES OTHER THAN PAPER AND PAPERBOARD MAKING</i>	<i>4</i>
<i>RECOVERED PAPER UTILIZATION BY THE PAPER AND PAPERBOARD INDUSTRY</i>	<i>5</i>
<i>LOSSES IN REPULPING OF WASTE PAPER</i>	<i>9</i>
<i>PROJECTED FUTURE RECOVERY OF WASTE PAPER</i>	<i>10</i>
<i>APPENDIX 1 – QUESTIONNAIRES</i>	<i>11</i>
<i>APPENDIX 2 – DEFINITIONS OF THE TERMS USED IN THE FAO RECOVERED PAPER SURVEY QUESTIONNAIRE</i>	<i>19</i>
<i>APPENDIX 3 - WASTE PAPER RECOVERY AND UTILIZATION OF RECOVERED PAPER IN PAPER AND PAPERBOARD INDUSTRY IN 2001</i>	<i>25</i>
<i>APPENDIX 4 - EXPORTS OF RECOVERED PAPER BY COUNTRY OF DESTINATION IN 2001</i>	<i>27</i>
<i>APPENDIX 5 - IMPORTS OF RECOVERED PAPER BY COUNTRY OF ORIGIN IN 2001</i>	<i>29</i>

RECOVERED PAPER DATA, 2001

INTRODUCTION

This FAO survey on “*Recovered Paper Data, 2001*” follows the same format as last year but since it is now an annual publication covers only the data year 2001. It was produced, as last year, in co-operation with the Confederation of European Paper Industry (CEPI) which supplied the necessary data relevant to its member countries (Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, the Netherlands, Portugal, Spain, Sweden, the United Kingdom) and its associate members (Czech Republic, Hungary, Norway, Slovak Republic, Switzerland). FAO collected data for the other countries.

As last year, with the concurrence of the FAO Advisory Committee on Paper and Wood Products the two questions on the use of recovered paper for energy generation and on market de-inked pulp were eliminated, as well as the one concerning non recoverable paper and paperboard.

The survey presents data on recovery, trade, and utilization of recovered paper. Historical data for the period 2001 is presented and only a few (thirteen countries provided projections of recovery and use of recovered paper for the years 2002, 2003, 2004 and 2005. The ratios used to analyse the data are the ones recommended by the Sub-group on Waste Paper Terminology, and are defined later in this document.

Appendix 1 contains a sample of the questionnaires, which FAO sent to 46 countries.

In addition to the 19 countries covered by CEPI, 16¹ others answered the questionnaires. All together these 35 countries represent over 80 percent of the world paper and paperboard production, and the data presented can be considered representative of the recovery, use and trade of recovered paper in the world.

DEFINITIONS OF TERMS USED

The FAO Advisory Committee on Pulp and Paper created a Sub-group on Waste Paper Terminology to define the terms to be used by FAO to describe waste paper recovery and utilization. The following rates are used in this survey:

- a) Waste paper net recovery
- b) Adjusted waste paper net recovery
- c) Recovered paper utilization
- d) Recovered paper in fibre use

¹ Australia, Brazil, Canada, Chile, Colombia, Indonesia, Japan, Latvia, Malaysia, Mexico, Morocco, New Zealand, Romania, Slovenia, Thailand, United States of America.

The definitions of the rates are given below:

a) **Waste paper net recovery rate:** is the amount of waste paper collected for re-use as a percentage of the adjusted paper and paperboard consumption;

(Note: the adjusted paper and paperboard consumption is equal to the apparent consumption of paper and paperboard plus the net trade in converted paper and paperboard products, excluding printed materials.)

b) **Adjusted waste paper net recovery rate:** is the amount of waste paper collected as a percentage of the adjusted paper and paperboard consumption from which the non-recoverable paper and paperboard is deducted;

c) **Recovered paper utilization rate:** is the amount of recovered paper used for paper and paperboard as a percentage of paper and paperboard production;

d) **Recovered paper in fibre use rate:** is the amount of recovered paper used for paper and paperboard as a percentage of the total fibre used for paper and paperboard.

NOTE

The figures reported in this survey are the ones supplied by countries. As is apparent from some figures in the tables (consumption of recovered paper without any relation to paper production, unrealistic percentages, etc.), there is some misunderstanding in the definitions, and readers are urged to use caution when interpreting data for some countries.

RECOVERED PAPER TRADE

Table 1 – *Recovered paper trade in relation to recovered paper collection and utilization of recovered paper* and Appendices 4 and 5 present the results of the survey.

In 2001, the United States of America was the major exporter with 9.5 million tonnes, followed by Germany with over 4 million tonnes and by the Netherlands and Belgium both with nearly 2 million tonnes.

Main importers of recovered paper were Indonesia and Canada with respectively 2.4 and 1.9 million tonnes.

TABLE 1 - RECOVERED PAPER TRADE IN RELATION TO RECOVERED PAPER COLLECTION AND UTILIZATION OF RECOVERED PAPER

Country	2001					
	Recovered paper collected nationally for paper and paperboard production	Exports of recovered paper		Recovered paper used for paper and paperboard	Imports of recovered paper	
		1000 mt	1000 mt		%	1000 mt
Australia	1797	261	15	1634	99	6
Austria	1274	225	18	1890	841	44
Belgium	1576	1765	112	605	794	131
Brazil	2769	4	0	2777	12	0
Canada	2861	357	12	4782	1929	40
Chile	395	11	3	410	26	6
Colombia	367	1	0	437	70	16
Czech Republic	425	88	21	392	55	14
Denmark	633	361	57	377	105	28
Finland	717	101	14	698	82	12
France	5358	878	16	5566	1086	20
Germany	13946	4020	29	11526	1600	14
Greece	380	9	2	380	9	2
Hungary	321	26	8	350	55	16
Indonesia	1740	0	0	4217	2477	59
Ireland	134	90	67	47	3	6
Italy	4679	257	5	5089	667	13
Japan	19122	1466	8	17966	214	1
Latvia		26		6	1	10
Malaysia						
Mexico	3463		0	3463	1210	35
Morocco ¹	35		0	67	32	48
Netherlands	2430	1810	74	2320	1700	73
New Zealand		87		191	0	0
Norway	555	192	35	439	76	17
Portugal	444	117	26	346	19	5
Romania	146		0	157	11	7
Slovakia	154	25	16	265	136	51
Slovenia	115	27	23	258	170	66
Spain	3496	70	2	4197	771	18
Sweden	1401	138	10	1834	571	31
Switzerland	1169	282	24	1109	222	20
Thailand	819	0	0	1765	947	54
United Kingdom	5550	958	17	4612	20	0
United States of America	40871	9476	23	31693	298	1

¹ Morocco: figures have been estimated

RECOVERED PAPER UTILIZATION FOR PURPOSES OTHER THAN PAPER AND PAPERBOARD MAKING

Table 2 – Distribution of the total use of recovered paper between paper/paperboard making and other uses, gives the relevant information. The information collected indicates that in nearly all countries virtually all recovered paper is used for paper and paperboard production.

TABLE 2 – DISTRIBUTION OF THE TOTAL USE OF RECOVERED PAPER BETWEEN PAPER/PAPERBOARD MAKING AND OTHER USES

Country	2001				
	Total use of recovered paper	Recovered paper used for paper and paperboard		Recovered paper used for other purposes	
	1000 mt	1000 mt	%	1000 mt	%
Australia	1634	1634	100	0	0
Austria	1890	1890	100		
Belgium	605	605	100		
Brazil	2777	2777	100	0	0
Canada	4923	4782	97	141	3
Chile	410	410	100		
Colombia	437	437	100		
Czech Republic	392	392	100		
Denmark	377	377	100		
Finland	698	698	100		
France	5566	5566	100		
Germany	11526	11526	100		
Greece	380	380	100		
Hungary	350	350	100		
Indonesia	4217	4217	100		
Ireland	47	47	100		
Italy	5089	5089	100		
Japan	18155	17966	99	189	1
Latvia	21	6	29	15	71
Malaysia					
Mexico	3463	3463	100		
Morocco ¹	67	67	100		
Netherlands	2320	2320	100		
New Zealand	191	191	100		
Norway	439	439	100		
Portugal	346	346	100		
Romania	169	157	93	12	7
Slovakia	265	265	100		
Slovenia	258	258	100		
Spain	4197	4197	100		
Sweden	1834	1834	100		
Switzerland	1109	1109	100		
Thailand	1765	1765	100		
United Kingdom	4612	4612	100		
United States of America	33689	31693	94	1996	6

¹ Morocco: figures have been estimated

RECOVERED PAPER UTILIZATION BY THE PAPER AND PAPERBOARD INDUSTRY

Table 3 – *Recovered paper utilization rate, recovered paper in fibre use rate and total fibre used for paper and paperboard production*, indicates the amounts of recovered paper being used in the paper furnish.

The recovered paper utilization rate, representing how much recovered paper is used in the production of paper and paperboard, shows low values (around 20 percent) in fibre-rich countries, and high (up to 77 percent in Greece) in fibre-poor regions.

Table 4 – *Composition of recovered paper (in percent)* shows what are the major grades of paper entering in the flow of recovered paper. On average world-wide, corrugated, solid containers and Kraft sack waste account for nearly half of the total recovered paper, while newspaper and magazines grades account for a much lower share of the total.

Table 5 – *Use of recovered paper by grades in percent* shows what percentage of recovered paper is used in the production of various paper and paperboard grades. The data indicates that the percentage of recovered paper entering the production of paper is much higher for packaging grades (case material, folding boxboard, wrapping and other packaging grades) than cultural grades.

TABLE 3 - RECOVERED PAPER UTILIZATION RATE, RECOVERED PAPER IN FIBRE USE RATE AND TOTAL FIBRE USED FOR PAPER AND PAPERBOARD PRODUCTION

Country	2001					
	Paper and paperboard production	Total fibre used for paper and paperboard	Recovered paper used for paper and paperboard	Total fibre used / paper and paperboard production	Recovered paper in fibre use rate	Recovered paper utilization rate
	1000 mt	1000 mt	1000 mt	%	%	%
Australia	2656	2534	1634	95	64	62
Austria	4385		1890			43
Belgium	1728		605			35
Brazil	7437	6552	2777	88	42	37
Canada	19655		4782			24
Chile			410			.
Colombia	772	852	437	110	51	57
Czech Republic	807		392			49
Denmark	376		377			100
Finland	13509		698			5
France	10006		5566			56
Germany	18182		11526			63
Greece	496		380			77
Hungary	506		350			69
Indonesia	6951		4217			61
Ireland	43		47			109
Italy	9127		5089			56
Japan	30717	30910	17966	101	58	58
Latvia	24	5	6	22	111	25
Malaysia	1113					0
Mexico	3810	4349	3463	114	80	91
Morocco ¹	127	60	67	47	112	53
Netherlands	3332		2320			70
New Zealand	838	876	191	105	22	23
Norway	2301		439			19
Portugal	1290		346			27
Romania	483	379	157	78	41	33
Slovakia	663		265			40
Slovenia	560	490	258	88	53	46
Spain	4765		4197			88
Sweden	10786		1834			17
Switzerland	1780		1109			62
Thailand	2445	2660	1765	109	66	72
United Kingdom	6605		4612			70
United States of America	82468	86937	31693	105	36	38

¹ Morocco: figures have been estimated

TABLE 4 – COMPOSITION OF RECOVERED PAPER (IN PERCENT)

Country	2001				
	Total recovered paper	Old and over-issue newspapers and magazines, telephone directories, brochures, etc.	Corrugated, solid containers and kraft sack waste (old and new)	Wood-free printing and writing paper, punch cards and other high-grade qualities	Mixed grades
	%	%	%	%	%
Australia	100	23	68	7	1
Austria	100	28	35	10	27
Belgium	100	32	52	4	13
Brazil	100	7	68	14	12
Canada	100	42	41	12	5
Chile	100	5	60	25	9
Colombia	100	8	61	29	2
Czech Republic	100	27	50	4	18
Denmark	100	18	45	19	19
Finland	100	45	32	13	9
France	100	27	51	11	10
Germany	100	32	27	13	29
Greece	100	8	68	11	13
Hungary	100	11	65	1	22
Indonesia					
Ireland	100	0	89	0	11
Italy	100	13	46	18	22
Japan	100	27	46	11	16
Latvia	100	17	33	33	17
Malaysia					
Mexico	100	22	61	15	3
Morocco ¹					
Netherlands	100	21	28	9	42
New Zealand	100	79	17	5	0
Norway	100	36	61	2	1
Portugal	100	25	53	8	14
Romania	100	0	58	0	42
Slovakia	100	27	35	24	14
Slovenia	100	24	6	30	40
Spain	100	12	51	18	19
Sweden	100	53	31	5	11
Switzerland	100	47	21	7	25
Thailand	100	14	62	7	17
United Kingdom	100	28	46	18	8
United States of America	100	17	56	14	14

¹ Morocco: figures have been estimated

TABLE 5 - USE OF RECOVERED PAPER BY GRADES IN PERCENT

Country	2001								
	Recovered paper used for paper and paperboard %	Newsprint %	Other graphic paper %	Case material %	Folding boxboard %	Wrapping, other packaging paper %	Household and sanitary paper %	Other paper and paperboard n.e.s. %	
Australia ¹	100	6	2	0	0	5	2	86	
Austria	100	16	14	39	21	1	8	1	
Belgium	100	22	12	50	0	12	1	4	
Brazil	100	0	1	62	7	9	15	6	
Colombia	100	0	0	0	0	0	100	0	
Czech Republic	100	13	2	55	5	13	6	6	
Denmark	100	0	36	45	0	14	0	4	
Finland	100	37	0	2	1	36	21	3	
France	100	18	6	54	7	8	5	1	
Germany	100	20	13	37	9	8	7	5	
Greece	100	0	5	11	50	8	26	0	
Hungary	100	0	3	80	0	6	12	0	
Ireland	100	0	0	100	0	0	0	0	
Ireland	100	0	0	100	0	0	0	0	
Italy	100	5	3	54	15	13	6	4	
Japan	100	13	15	52	10	0	5	5	
Latvia	100	5	17	22	0	37	0	20	
Malaysia	100	100	0	0	0	0	0	0	
Mexico	100	22	15	0	0	61	0	3	
Netherlands	100	16	0	35	9	33	7	0	
Norway	100	28	0	55	0	9	8	1	
Portugal	100	0	1	61	10	10	15	3	
Romania	100	0	0	58	7	4	31	0	
Slovakia	100	0	0	38	1	8	52	2	
Slovenia	100	22	0	4	52	0	22	0	
Spain	100	8	2	56	11	2	9	11	
Sweden	100	46	0	29	8	0	11	6	
Switzerland	100	28	6	40	17	0	8	0	
Thailand	100	8	0	79	10	0	4	0	
United Kingdom	100	25	4	41	0	9	13	8	
United States of America	100	11	5	6	10	30	12	26	

LOSSES IN REPULPING OF WASTE PAPER

Waste paper has higher losses during pulping than virgin material, due to the amount of fines and filler in the waste paper. As the content of waste paper increases in the raw material, the amount of losses will go up.

Table 6 – *Losses in repulping and processing into paper and paperboard*, presents the percentage figures for pulping losses. Though data is scarce, in most of the countries reporting the information, pulping losses are between 10 and 20 percent, with some exceptions probably due to antiquated equipment or poor processing control.

TABLE 6 - LOSSES IN REPULPING AND PROCESSING INTO PAPER AND PAPERBOARD

Country	2001		
	Total recovered paper used	Losses in pulping	
	1000 mt	1000 mt	%
Australia	1634	196	12
Austria	1890		
Belgium	605		
Brazil	2777	417	15
Canada	4923		
Chile	410		
Colombia	437	80	18
Czech Republic	392		
Denmark	377		
Finland	698		
France	5566		
Germany	11526		
Greece	380		
Hungary	350		
Indonesia	4217		
Ireland	47		
Italy	5089		
Japan	18155		
Latvia	21	1	3
Malaysia			
Mexico	3463	539	16
Morocco ¹	67	6	9
Netherlands	2320		
New Zealand	191	38	20
Norway	439		
Portugal	346		
Romania	169	55	33
Slovakia	265		
Slovenia	258	40	16
Spain	4197		
Sweden	1834		
Switzerland	1109		
Thailand	1765		
United Kingdom	4612		
United States of America	33689		

¹ Morocco: figures have been estimated

PROJECTED FUTURE RECOVERY OF WASTE PAPER

Table 7 – *Projected future recovery of waste paper and use of recovered paper for paper and paperboard making*, shows projections for the next four years in both waste paper collected for re-use and for recovered paper used for paper and paperboard. They are expressed as a percentage of the 2001 level taken as a base line (100 percent).

TABLE 7 - PROJECTED FUTURE RECOVERY OF WASTE PAPER AND USE OF RECOVERED PAPER FOR PAPER AND PAPERBOARD MAKING

Country	Waste paper collected for re-use					Recovered paper used for paper and paperboard				
	%					%				
	2001	2002	2003	2004	2005	2001	2002	2003	2004	2005
Australia	100	104	104	104	104	100	101	101	101	102
Brazil	100	103	106	109	113	100	103	106	109	113
Chile	100					100				
Colombia						100	100			
Indonesia	100	115	132	147	161	100	110	120	130	140
Japan	100	105	107	110	112	100	101	102	104	105
Latvia	100	113	125	150	163	100	117	167	200	250
Mexico						100	102	106	116	122
Morocco	100	100	100	100	100	100	100	100	100	100
New Zealand						100	100	100	100	100
Slovenia	100	100	104	104	109	100	101	105	107	110
Thailand	100	105	120	128	128	100	101	112	120	120
United States of America	100					100	107	109	110	

APPENDIX 1 – QUESTIONNAIRES

FAO RECOVERED PAPER SURVEY (2001)
Part 1: Main Questionnaire

Country:

(All figures in 000 metric tons)	2001
1. Production of paper and paperboard	
2. Net trade in paper and paperboard	
3. Recovered paper collected nationally for paper and paperboard production	
4. Exports of recovered paper.*	
5. Imports of recovered paper.*	
6a. Recovered paper* used domestically for purposes other than paper and paperboard making.	
6b. Recovered paper* used domestically for paper and paperboard making	
(i) Old and over-issue newspapers and magazines, telephone directories, brochures, etc.	
(ii) Corrugated, solid containers and kraft sack waste (old and new)	
(iii) Wood-free printing and writing paper, punch cards and other high-grade qualities	
(iv) Mixed grades	
7. Losses in repulping and processing into paper and paperboard	
8. Total fibre used for paper and paperboard	

*including recovered paper market pulp measured in terms of recovered paper.

FAO RECOVERED PAPER SURVEY (2001)
Part 2: Use of the main types of recovered paper in the manufacture of major grades of paper and paperboard
Country:

		Types of recovered paper (all figures in 1000 mt)				
	year	Recovered paper* used domestically for paper and paperboard making. Total recovered paper	Old and over-issue newspapers, magazines, telephone directories, brochures, etc.	Corrugated, solid container and kraft sack waste (old and new)	Wood-free printing and writing papers, punch cards and other high-grade qualities	Mixed grades
		[6b.] **	[6b.(i)]**	[6b.(ii)]**	[6b.(iii)]**	[6b.(iv)]**
Major grades of paper and paperboard	2001					
Paper and paperboard total	2001					
Newsprint	2001					
Other graphic paper	2001					
Case material	2001					
Folding boxboard	2001					
Wrapping, other packaging paper	2001					
Household and sanitary paper	2001					
Other paper and paperboard, n.e.s.	2001					

* Including recovered paper market pulp measured in terms of recovered paper.

** Same headings as in Part 1: Main Questionnaire.

FAO RECOVERED PAPER SURVEY (2001)

Part 3: Projected future consumption and supply of recovered paper

Country:

(All figures in 000 metric tons)	2001	2002	2003	2004	2005
Waste paper collected for re-use					
Exports of recovered paper* [4] **					
Imports of recovered paper* [5] **					
Recovered paper* used domestically for purposes other than paper and paperboard making [6a.] **					
Recovered paper* used domestically for paper and paperboard making [6b.] **					

*including recovered paper market pulp measured in terms of recovered paper.

** same headings as in Part 1: Main Questionnaire

**APPENDIX 2 – DEFINITIONS OF THE TERMS USED IN
THE FAO RECOVERED PAPER SURVEY QUESTIONNAIRE**

**APPENDIX 2 – DEFINITIONS OF THE TERMS USED IN
THE FAO RECOVERED PAPER SURVEY QUESTIONNAIRE**

1. Paper and paperboard production is the quantity of all paper and paperboard of commercial quality (fibre building boards not included) produced within a country
2. Net trade in paper and paperboard (excluding printed material) is the difference between the imports and exports of converted paper and paperboard products (SITC [Rev. 2] 642 and part of BIN 48). In case imports exceed exports, this factor is positive, and in case exports are higher than imports the factor is negative.
3. Recovered paper collected nationally for paper and paperboard production is the net quantity of recovered paper collected which is used exclusively in paper and paperboard manufacture including also recovered paper market pulp measured in terms of recovered paper input.
4. and 5. Exports and imports of recovered paper are the quantities of all kinds of waste paper exported and imported for any kind of use including waste paper market pulp² measured in terms of waste paper inputs.
- 6a. Recovered paper used domestically for purposes other than paper and paperboard making is the quantity of waste paper used for fibre building boards, moulded products, in bulk as wrapping and packaging material or for any other major industrial or commercial use
- 6b. Recovered paper used domestically for paper and paperboard making is the net quantity of the waste paper intake at the mill (and excluding all sorting losses) of any kind of waste paper -either locally collected or imported - which is used exclusively in paper and paperboard manufacture including also recovered paper market pulp measured in terms of recovered paper input. (Whenever possible, the quantities of recovered paper should be expressed at 90 percent dryness and should include the losses in repulping and processing into paper and paperboard.) The details under this heading include the following:
 - i) Old and over-issue newspapers and magazines, telephone directories, brochures, etc., i.e. waste paper containing mainly mechanical pulp.
 - ii) Corrugated, solid container and kraft sack waste (old and new), i.e. recovered paper containing mainly unbleached sulphate pulp.
 - iii) Wood-free printing and writing papers, copy paper, computer printouts, and other high-grade qualities, i.e. recovered paper containing mainly bleached chemical pulp.
 - iv) Mixed grades, all other types of recovered paper

² Recovered paper market pulp is the pulp made of recovered paper for sale in the open market and does not include recovered paper pulp used in own plant or shipped to wholly owned or associated companies within the country. All recovered paper pulp moving outside the producing country is considered to be recovered paper market pulp.

7. Losses in repulping and processing into paper and paperboard is the quantity which is lost as broken fibres, fillers, coatings and other additives when the recovered paper is repulped, as well as the fibre losses in processing the derived recovered paper pulp into paper and paperboard.
8. Total fibre used for paper and paperboard is the total input quantity of all types of fibres at 90 percent dryness used for paper and paperboard manufacturing. The fibres can originate from wood (round, split, chips, residues, sawdust, etc.), from non-wood fibrous vegetable materials (bagasse, straw, bamboo, esparto, other reeds and grass, cotton linters, flax, hemp, etc.), from rags and other textile wastes and from recovered paper.

PLEASE NOTE: For some of the headings or for some parts of the headings the data might not be readily available. In such cases you are kindly requested to make estimates and to indicate such estimates with, e.g. a footnote.

APPENDIX 3 - WASTE PAPER RECOVERY AND UTILIZATION OF RECOVERED PAPER IN PAPER AND PAPERBOARD INDUSTRY IN 2001

APPENDIX 4 - EXPORTS OF RECOVERED PAPER BY COUNTRY OF DESTINATION IN 2001

APPENDIX 5 - IMPORTS OF RECOVERED PAPER BY COUNTRY OF ORIGIN IN 2001

APPENDIX 3 - WASTE PAPER RECOVERY AND UTILIZATION OF RECOVERED PAPER IN PAPER AND PAPERBOARD INDUSTRY									
Country	2001								
	Production of paper and paperboard 1000 mt	Net trade in converted paper and paperboard products 1000 mt	Apparent consumption of paper and paperboard 1000 mt	Recovered paper collected nationally for paper and paperboard production 1000 mt	Recovered paper collection rate %	Exports of recovered paper 1000 mt	Imports of recovered paper 1000 mt		
Australia	2656	880	3536	1797	51	261	99		
Austria	4385	-2405	1980	1274	64	225	841		
Belgium	1728	1762	3490	1576	45	1765	794		
Brazil	7437		7437	2769	37	4	12		
Canada	19655	-11563	8092	2861	35	357	1929		
Chile				395		11	26		
Colombia	772	-46	726	367	51	1	70		
Czech Republic	807	123	930	425	46	88	55		
Denmark	376	1019	1395	633	45	361	105		
Finland	13509	-11510	1999	717	36	101	82		
France	10006	1376	11382	5358	47	878	1086		
Germany	18182	2911	21093	13946	66	4020	1600		
Greece	496	713	1209	380	31	9	9		
Hungary	506	219	725	321	44	26	55		
Indonesia	6951		6951	1740	25	0	2477		
Ireland	43	359	402	134	33	90	3		
Italy	9127	1945	11072	4679	42	257	667		
Japan	30717	105	30822	19122	62	1466	214		
Latvia	24		24				1		
Malaysia	1113	2266	3379		0				
Mexico	3810		3810	3463	91		1210		
Morocco ¹	127	190	317	35	11		32		
Netherlands	3332	485	3817	2430	64	1810	1700		
New Zealand	838	168	1006		0	87	0		
Norway	2301	-1353	948	555	59	192	76		
Portugal	1290	-177	1113	444	40	117	19		
Romania	483	84	567	146	26		11		
Slovakia	663	-297	366	154	42	25	136		
Slovenia	560	-33	527	115	22	27	170		
Spain	4765	2064	6829	3496	51	70	771		
Sweden	10786	-8268	2518	1401	56	138	571		
Switzerland	1780	-9	1771	1169	66	282	222		
Thailand	2445	-374	2071	819	40	0	947		
United Kingdom	6605	6334	12939	5550	43	958	20		
United States of America	82468	-6356	76113	40871	54	9476	298		

¹ Morocco: figures have been estimated

APPENDIX 3 - WASTE PAPER RECOVERY AND UTILIZATION OF RECOVERED PAPER IN PAPER AND PAPERBOARD INDUSTRY (cont.)									
Country	2001								
	Recovered paper used for other purpose than paper and paperboard 1000 mt	Recovered paper used for paper and paperboard 1000 mt	Losses in repulping and processing into paper and paperboard 1000 mt	Total fibre used for paper and paperboard 1000 mt	Recovered paper in fibre use rate %	Total fibre / paper and paperboard production %	Recovered paper utilization rate %		
Australia	0	1634	196	2534	64	95	62		
Austria		1890					43		
Belgium		605					35		
Brazil	0	2777	417	6552	42	88	37		
Canada	141	4782					24		
Chile		410							
Colombia		437	80	852	51	110	57		
Czech Republic		392					49		
Denmark		377					100		
Finland		698					5		
France		5566					56		
Germany		11526					63		
Greece		380					77		
Hungary		350					69		
Indonesia		4217					61		
Ireland		47					109		
Italy		5089					56		
Japan	189	17966		30910	58	101	58		
Latvia	15	6	1	5	111	22	25		
Malaysia							0		
Mexico		3463	539	4349	80	114	91		
Morocco ¹		67	6	60	112	47	53		
Netherlands		2320					70		
New Zealand		191	38	876	22	105	23		
Norway		439					19		
Portugal		346					27		
Romania	12	157	55	379	41	78	33		
Slovakia		265					40		
Slovenia		258	40	490	53	88	46		
Spain		4197					88		
Sweden		1834					17		
Switzerland		1109					88		
Thailand		1765		2660		109	62		
United Kingdom		4612			66		72		
United States of America	1996	31693		86937	36	105	70		
							38		

¹ Morocco: figures have been estimated

**APPENDIX 4 - EXPORTS OF RECOVERED PAPER BY COUNTRY OF DESTINATION IN 2001
(1000 t)**

To	From	Australia	Austria	Belgium	Brazil	Canada	Chile	Czech Rep.	Denmark	Finland	France	Germany	Greece	Hungary	Ireland	Italy
Argentina																
Australia																
Austria				7				9	3		1	541		7		23
Belgium									2	1	38	231				1
Brazil																
Canada																
Chile																
China		62		328						1	23	372			2	22
Czech Republic			12									50				
Denmark												39				
Finland																
France				219								244				1
Germany			121	118				15	167	43	124			1		64
Greece												2				1
Hong Kong		11		25								3			1	
Hungary			3					2				42				1
India		15		203					2	6	40	94			10	
Indonesia		113		222						3	16	289			4	11
Ireland																
Italy			11	2					1	1	76	246	9			
Japan				0							1					
Korea Rep. of		1		19							15	49			1	
Latvia																
Malaysia		28		5							9					2
Mexico																
Netherl.			1	511				1	4	11	51	990		1	16	
New Zealand		10														
Norway									10	3		2				
Philippines		8		17								18				
Poland												1				
Portugal												4				
Romania																
Singapore		1														
Slovak Republic			10					57				48		6		
Slovenia			24					1				65		2		37
Spain				1						1	383	25			21	2
Sweden									170	12	1	150				
Switzerland			1	1					1	1	53	109				8
Taiwan		3		41							19	284			8	2
Thailand		1		24							3	35			1	
Turkey																22
Ukraine								3		1				9		2
United Kingdom				3						2	4	5			25	1
USA		2		2		357						1				
Venezuela											1					
Vietnam		2		1												
Total Others		4	42	16	4	0	11	0	1	15	20	81	0	0	1	57
TOTAL		261	225	1.765	4	357	11	88	361	101	878	4.020	9	26	90	257

Notes : Denmark, Greece and Ireland: figures have been estimated

APPENDIX 4 (cont.)
(1000 t)

To	From	Japan	Latvia	Netherlands	New Zealand	Norway	Portugal	Slovak Rep.	Slovenia	Spain	Sweden	Switzerland	UK	USA	TOTAL
Argentina														4	4
Australia					16									3	19
Austria				5				3	30		7	56	15	1	708
Belgium				110									24	2	409
Brazil														10	10
Canada														1,932	1,932
Chile														12	12
China	588		74	7						2			71	3,302	4,854
Czech Republic															62
Denmark			5			22					18				84
Finland						1					23				24
France			185			2				8		81	163	7	910
Germany			465			4			70	5	32	66	70	3	1,368
Greece														3	6
Hong Kong	6		10										43	16	115
Hungary								2							50
India			275	3							3		43	516	1,210
Indonesia	60		495	27									80	351	1,671
Ireland													5		5
Italy									40	20	18	75	43	130	672
Japan				1										181	183
Korea Rep. of	115				1								26	901	1,128
Latvia															0
Malaysia	4				26								18	8	100
Mexico			2										2	800	804
Netherl.						1				0	1	2	111	59	1,760
New Zealand															10
Norway			2								32		6		55
Philippines	78		15	1									2	98	237
Poland								1							2
Portugal										8				7	19
Romania												1			1
Singapore	5													2	8
Slovak Republic													7		128
Slovenia												1			130
Spain							117				2		22	40	614
Sweden			5			109							138	1	586
Switzerland			5										11	6	196
Taiwan	237												12	257	863
Thailand	351		30	4									2	341	792
Turkey													0	15	37
Ukraine			10					19							44
United Kingdom				90										26	156
USA			35							1			3		401
Venezuela			2											90	93
Vietnam	20				1									19	43
Total Others	2	16	0	0	53	0	0	30	26	2	0	41	333	755	
TOTAL	1,466	26	1,810	87	192	117	25	170	70	138	282	958	9,476	23,270	

Notes : Denmark, Greece and Ireland: figures have been estimated

**APPENDIX 5 - IMPORTS OF RECOVERED PAPER BY COUNTRY OF ORIGIN IN 2001
(1000 t)**

From	To	Austria	Belgium	Brazil	Canada	Colombia	Czech Rep.	Denmark	Finland	France	Germany	Greece	Hungary	Indonesia	Italy	Japan
Argentina																
Australia																
Austria							11			1	116		3		8	
Belgium		7							1	293	183	1			2	
Brazil																
Canada			1			1					1				13	1
Chile						2										
China																
Czech Republic		11									17		2			
Denmark		4	2								145				3	
Finland		20								1	45		1		1	
France		2	96								153				104	
Germany		679	215				37	53	46	376			44		248	
Greece															13	
Hungary		7														
Hong Kong																
India																
Indonesia																
Ireland			1													
Italy		27								2	39	1	1			
Japan																
Korea Rep. of																
Latvia																
Malaysia																
Mexico																9
Netherlands		14	448				2	3		115	697	1			36	
Norway								25	1		7					
Philippines																
Poland		3					4				18					
Portugal											1					
Romania													1			
Singapore																
Slovak Republic		4					1						3			
Slovenia											1	1			1	
Spain										9	7				25	
Sweden		7						24	26	1	40				19	
Switzerland		36									81	78			62	
Taiwan																
Thailand																
Turkey																
United Kingdom		20	22							202	45				33	
USA			7		1.929	28			3	4	2	3			91	203
Ukraine									1							
Venezuela						6										
Vietnam																
Others		0	2	12	0	33	0	0	4	1	5	2	0	2.477	8	1
TOTAL		841	794	12	1.929	70	55	105	82	1.086	1.600	9	55	2.477	667	214

Notes : Denmark, Greece, Ireland and Morocco: figures have been estimated

APPENDIX 5 (cont.)
(1000 t)

From	To														TOTAL
	Mexico	Morocco	Netherlands	Norway	Portugal	Romania	Slovak Rep.	Slovenia	Spain	Sweden	Switzerland	Thailand	UK	USA	
Argentina															0
Australia														2	2
Austria							10	2	1		4				156
Belgium			350						4	4	2	21			868
Brazil															0
Canada									2				2	279	300
Chile															2
China															0
Czech Republic							61								91
Denmark				17						162	1				334
Finland				3					1	10	1		1		84
France			75	3	1				526	1	40	7	2		1,010
Germany			1,085	3	5	7	52	3	41	119	149	35	1		3,198
Greece															13
Hungary						4	6								17
Hong Kong															0
India															0
Indonesia															0
Ireland			7						19				5		32
Italy			4						2		9				85
Japan												312			312
Korea Rep. of															0
Latvia															0
Malaysia												3			3
Mexico														15	24
Netherlands				6					7	26	7	30	4		1,396
Norway			5							135		3			176
Philippines															0
Poland							7			1					33
Portugal									108						109
Romania															1
Singapore												75,0			75
Slovak Republic															8
Slovenia															3
Spain		32			2										75
Sweden			2	41					5			3			168
Switzerland															257
Taiwan															0
Thailand															0
Turkey															0
United Kingdom			150	3					8	104	9	3			599
USA			22		11				40			434	4		2,781
Ukraine															1
Venezuela															6
Vietnam															0
Others	1,210	0	0	0	0	0	0	22	7	9	0	21	1	1	3,816
TOTAL	1,210	32	1,700	76	19	11	136	27	771	571	222	947	20	297	16,035

Notes : Denmark, Greece, Ireland and Morocco: figures have been estimated