

RECOVERED PAPER DATA 1997-1998



RECOVERED PAPER DATA, 1997-1998

FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS

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INTRODUCTION

Statistical data on recovered paper is produced by two organizations: the Confederation of European Paper Industry (CEPI) and the Food and Agriculture Organization of the United Nations (FAO), with CEPI covering European countries and FAO the world. There was thus a duplication of work for Europe which was surveyed by both organizations, resulting in unnecessary work by the respondents. Furthermore, there were some differences in definition and classification causing confusion in readers of the surveys.

As a first step to eliminate duplication and standardize definitions, it was commonly accepted by the two organizations that each one would publish its own survey, with CEPI handling the data collection for Europe and FAO for all the countries but using CEPI data for European countries. Steps are being initiated to have as soon as possible a single unique survey of recovered paper issued jointly by CEPI and FAO.

Data was not available from the Russian Federation for the period, but there is a possibility that some statistical data may be available next year.

The document will follow the same presentation as in the previous surveys, and presents historical data for a two-year period, in this case years 1997 and 1998. The survey also includes projections of recovery and use of recovered paper for the years 1998, 1999, 2000, 2001 and 2002 for some countries.

The survey presents data on recovery, trade, and utilization of recovered paper.

The format of the questionnaires used in this survey is the same as the one used in the past, with the addition of a question relating to the use of recovered paper for energy generation to which, unfortunately, very few respondents could answer. 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 were sent to 130 countries.

The 37¹ countries which answered the questionnaires represent 82 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 two changes made concern the terminology and apply to waste paper utilization rate and waste paper in fibre use rate, which have been renamed recovered paper utilization rate and recovered paper in fibre use rate, respectively. The following rates are used in this survey:

¹ Australia, Austria, Belgium, Brazil, Canada, Chile, Czech Republic, Denmark, El Salvador, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Japan, Republic of Korea, Latvia, Malaysia, Mexico, Morocco, Myanmar, the Netherlands, Norway, Pakistan, Portugal, Romania, Slovakia, Spain, Sweden, Switzerland, Thailand, Turkey, United Kingdom, United States of America.

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

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;

- c) 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 from some countries.

WASTE PAPER RECOVERY

Most of the paper and paperboard consumed is theoretically available for re-utilization, with the exception of tissue papers, the highly contaminated and the permanently conserved papers.

Table 1 – *Non-recoverable paper and paperboard in 37 countries in 1997 and 1998* shows that for the 37 countries listed the amount of non-recoverable paper and paperboard expressed as a percentage of apparent paper and paperboard consumption varies between a low of 1 percent (Myanmar) and 46 percent in Malaysia in 1998.

Table 1. Non-recoverable paper and paperboard in 37 countries in 1997 and 1998

Country	1997			1998		
	Apparent consumption of paper and paperboard	Non-recoverable paper and paperboard		Apparent consumption of paper and paperboard	Non-recoverable paper and paperboard	
	1000 mt	1000 mt	%	1000 mt	1000 mt	%
Canada	6 900	n.a.		7 127	n.a.	
USA	90 318	7 677	8	91 913	7 813	9
Brazil	6 167	933	15	6 276	948	15
Chile	243	n.a.		220	n.a.	
El Salvador						
Mexico	4 325	n.a.		4 589	n.a.	
Austria	1 636	303	18	1 795	332	19
Belgium	2 810	520	18	2 977	551	18
Denmark	1 230	228	18	1 228	227	19
Finland	1 045	193	18	1 050	194	18
France	10 782	1 995	18	11 363	2 102	18
Germany	16 043	2 968	18	17 040	3 152	18
Greece	925	176	19	950	171	18
Ireland	434	80	18	441	82	19
Italy	9 623	1 780	18	9 919	1 835	18
Netherlands	4 077	754	19	4 380	811	19
Portugal	867	160	19	950	176	18
Spain	5 599	1 036	18	6 072	1 123	18
Sweden	2 143	396	18	2 155	399	18
United Kingdom	12 225	2 262	19	12 474	2 308	18
Czech Republic	869	161	18	882	163	19
Norway	813	150	18	838	155	18
Switzerland	1596	295	18	1 638	303	19
Hungary	595	119	20	654	161	25
Romania	365	44	12	400	82	21
Slovakia	365	26	7	404	28	7
Turkey	1 984	n.a.		2 085	n.a.	
Estonia	28	3	12	38	5	12
Latvia	91	24	26	100	28	28
Morocco	276	n.a.		281	n.a.	
Japan	32 241	5 501	17	29 950	5 117	17
Korea, Rep. of	6 900	n.a.		5 275	n.a.	
Malaysia	1 698	750	44	1 740	800	46
Myanmar	112	1	1	108	1	1
Pakistan	438			450		
Thailand	2 335	74	3	1 941	63	3
Australia ¹	3 137	n.a.		3 259	n.a.	

¹ Australia data covers 07/96 to 06/97 and 07/97 to 06/98 instead of 1997 and 1998.

Table 2 – *Waste paper net recovery and adjusted waste paper net recovery rates in 28 countries in 1997 and 1998* indicates that both ratios were about a percentage point higher in 1998 than in 1997, 48 vs. 47 percent for waste paper net recovery rate and 56 vs. 54 percent for adjusted waste paper net recovery rate.

Table 2. Waste paper net recovery and adjusted waste paper net recovery rates in 28 countries in 1997 and 1998

Year	Apparent consumption of paper and paperboard	Non-recoverable paper and paperboard	Waste paper collected for re-use	Waste paper net recovery rate	Adjusted waste paper net recovery rate
	(1000 mt)	(1000 mt)	(1000 mt)	percent	percent
1997	207 031	28 609	96 896	47	54
1998	209 675	29 129	100 372	48	56

RECOVERED PAPER TRADE

Table 3 – *Recovered paper trade in relation to waste paper collection and utilization in 37 countries in 1983*, and Appendices 5 to 8 present the results of the survey.

The United States of America was the major exporter with over 7 million tons in 1998, followed by Germany with more than 3 million tons, and by the Netherlands and Belgium with over a million tons each.

As shown in Appendices 5 and 6, exports from the USA grew from 6.8 million tons in 1997 to 7.3 million tons in 1998. Total exports from the European Union grew from 7.4 to 7.7 million tons between 1997 and 1998. Japan's exports, though still small compared to the major exporters, registered an increase of 80 percent from their 1997 level of 311 000 tons.

Appendices 7 and 8 show imports of recovered paper and indicate that Canada and the Republic of Korea are the largest importers of recovered papers importing respectively 2.1 and 1.5 million tons in 1997, increasing to 2.2 and 2.0 million tons in 1998. In countries such as Canada, Mexico, Morocco, Republic of Korea, Pakistan and Thailand imports represent between 38 and 50 percent of the recovered paper used for paper and paperboard production, the numbers vary widely in Europe ranging from low of less than 1 percent in the United Kingdom to a high of 81 percent in Belgium.

Table 3. Recovered paper trade in relation to recovered paper collection and utilization of recovered paper in 37 countries in 1998

Country	Waste paper collected for re-use	Exports of recovered paper		Recovered paper used for paper and paperboard	Imports of recovered paper	
	1000 mt	1000 mt	%	1000 mt	1000 mt	%
Canada	2 624	578	22	4 810	2 205	46
USA	41 103	7 354	18	32 943	464	1
Brazil	2 276	3	0	2 295	22	1
Chile	233	14	6	n.a.	2	
El Salvador	n.a.	2		n.a.	17	
Mexico	3 395	0	0	3 395	1 272	37
Austria	1 163	92	8	1 732	661	38
Belgium	1 425	1 326	93	526	427	81
Denmark	635	305	48	415	85	20
Finland	665	91	14	633	59	9
France	4 614	838	18	4 931	1 155	23
Germany	11 913	3 004	25	9 917	1 007	10
Greece	203	10	5	243	50	21
Ireland	92	49	53	55	12	22
Italy	3 300	42	1	4 112	854	21
Netherlands	2 535	1 339	53	2 266	1 070	47
Portugal	395	56	14	352	13	4
Spain	2 635	53	2	3 396	815	24
Sweden	1 378	169	12	1 760	549	31
United Kingdom	5 028	402	8	4 654	29	1
Czech Republic	335	60	18	319	44	14
Norway	453	219	48	287	53	18
Switzerland	1 062	210	20	1 082	230	21
Hungary	291	31	11	310	62	20
Romania	115	0	0	125	16	13
Slovakia	140	11	8	223	94	42
Turkey	n.a.	5		692	39	6
Estonia	2			n.a.	0	
Latvia	35	19	54	4	0	0
Morocco	35	0	0	68	33	49
Japan	16 566	561	3	16 378	294	2
Korea, Rep. of				5 764	1 963	34
Malaysia	1 100	2	0	1 100	15	1
Myanmar	45	0	0	36	0	0
Pakistan	35	0	0	68	33	49
Thailand	869	0	0	1 594	725	45
Australia ¹	1 557	137	9	1 463	43	3
Total	108 252	16 981	16	107 949	14 413	13

¹ Australia data covers 07/96 to 06/97 and 07/97 to 06/98 instead of 1997 and 1998.

RECOVERED PAPER UTILIZATION FOR PURPOSES OTHER THAN PAPER AND PAPERBOARD MAKING

Table 4 – *Distribution of the total use of recovered paper between paper and paperboard uses and other uses* gives the relevant information. Though data is often missing, the information collected from these 37 countries indicates that in most cases nearly all recovered paper is used for paper and paperboard production. From the lack of answer supplied to the question regarding incineration of recovered paper for energy generation, one could assume it does not amount to large volumes, or that the information is not recorded.

RECOVERED PAPER UTILIZATION BY THE PAPER AND PAPERBOARD INDUSTRY

The average recovered paper in fibre use rate was 48 percent in 1998 as shown in Table 5 – *Recovered paper utilization rate, recovered paper in fibre use rate and total fibre used for paper and paperboard production*, an increase of two percentage points from the level of 46 percent shown in the 1994 survey. The trend of increasing amounts of recovered paper being used in the paper furnish observed previously is continuing.

The recovered paper in fibre use rate (see page 2 for definition) varies widely from one country to another, ranging from lows around 10 percent, mostly in resources-rich countries such as Norway and Finland, to highs above 80 percent in countries such as Denmark, Mexico and Myanmar. A large majority of countries have rate between 30 and 60 percent. Figures superior to 100 percent either include fibre lost during processing or are erroneously reported by respondents.

The recovered paper utilization rate, representing how much recovered paper is used in the production of paper and paperboard, has an average value of 44 percent in 1998, compared with 40 percent in 1994. As in the past the ratio is low in fibre-rich countries, and high in fibre-poor regions.

Table 6 – *Composition of recovered paper*, 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 nearly a quarter of the total.

Table 7 – *Use of recovered paper by grades* shows in what percentage recovered paper is used in the production of various paper and paperboard grades. The data is more complete for 1998 than for 1997 and indicates that about 65 percent of the recovered paper is used in the production of packaging grades, while 20 percent goes in the production of newsprint and printing and writing grades.

Table 4. Distribution of the total use of recovered paper between paper and paperboard making

Country	1 997					1 998				
	Total use of recovered paper	Recovered paper used for paper and paperboard		Recovered paper used for other purposes		Total use of recovered paper	Recovered paper used for paper and paperboard		Recovered paper used for other purposes	
	1000 mt	1000 mt	%	1000 mt	%	1000 mt	1000 mt	%	1000 mt	%
Canada	4 668	4 668	100	n.a.		4 810	4 810	100	n.a.	
USA	33 166	31 941	96	1 225	4	34 213	32 943	96	1 270	4
Brazil	2 239	2 239	100	n.a.		2 295	2 295	100	n.a.	
Chile										
El Salvador										
Mexico	3 278	3 278	100	n.a.		3 395	3 395	100	n.a.	
Austria	1 642	1 642	100	n.a.		1 732	1 732	100	n.a.	
Belgium	482	482	100	n.a.		526	526	100	n.a.	
Denmark	410	410	100	n.a.		415	415	100	n.a.	
Finland	609	609	100	n.a.		642	633	99	9	1
France	4 467	4 467	100	n.a.		4 931	4 931	100	n.a.	
Germany	9 457	9 457	100	n.a.		9 917	9 917	100	n.a.	
Greece	275	275	100	n.a.		243	243	100	n.a.	
Ireland	54	54	100	n.a.		55	55	100	n.a.	
Italy	3 953	3 953	100	n.a.		4 112	4 112	100	n.a.	
Netherlands	2 245	2 245	100	n.a.		2 266	2 266	100	n.a.	
Portugal	322	322	100	n.a.		352	352	100	n.a.	
Spain	3 032	3 032	100	n.a.		3 396	3 396	100	n.a.	
Sweden	1 652	1 652	100	n.a.		1 775	1 760	99	15	1
United Kingdom	4 618	4 618	100	n.a.		4 824	4 654	96	170	4
Czech Republic	247	247	100	n.a.		551	319	58	232	42
Norway	256	256	100	n.a.		657	287	44	370	56
Switzerland	1 032	1 032	100	n.a.		1 082	1 082	100	n.a.	
Hungary	294	283	96	11	4	322	310	96	12	4
Romania	128	122	95	6	5	131	125	95	6	5
Slovakia	188	188	100	n.a.		223	223	100	n.a.	
Turkey	795	689	87	106	13	794	692	87	102	13
Estonia	0	0								
Latvia	4	4	100	n.a.	0	4	4	100	n.a.	
Morocco	61	61	100	n.a.		68	68	100	n.a.	
Japan	16 661	16 661	100	n.a.		16 378	16 378	100	n.a.	
Korea, Rep. of	6 086	6 086	100	n.a.		5 764	5 764	100	n.a.	
Malaysia	1 000	1 000	100	n.a.		1 100	1 100	100	n.a.	
Myanmar	45	36	80	9	20	45	36	80	9	20
Pakistan	63	63	100	n.a.		68	68	100	n.a.	
Thailand	1 495	1 495	100	n.a.		1 594	1 594	100	n.a.	
Australia ¹	1 488	1 488	100	n.a.		1 463	1 463	100	n.a.	

¹ Australia data covers 07/96 to 06/97 and 07/97 to 06/98 instead of 1997 and 1998.

Table 5. Recovered paper utilization rate, recovered paper in fibre use rate and total fibre used for paper and paperboard production in 37 countries in 1998

Country	Paper and paperboard production	Total fibre used for paper and paperboard	Recovered paper used for paper and paperboard	Total fibre used/paper & paperboard production	Recovered paper in fibre use rate	Recovered paper utilization rate
	1000 mt	1000 mt	1000 mt	percent	percent	percent
Canada	18 714	n.a.	4 810			26
USA	87 549	90 122	32 943	103	37	38
Brazil	6 589	6 596	2 295	100	35	35
Chile	n.a.	n.a.	n.a.			
El Salvador	n.a.	n.a.	n.a.			
Mexico	3 669	4 244	3 395	116	80	93
Austria	4 009	3 511	1 732	88	49	43
Belgium	1 545	1 186	526	77	44	34
Denmark	340	492	415	145	84	122
Finland	12 702	10 342	633	81	6	5
France	9 161	9 026	4 931	99	55	54
Germany	16 311	15 494	9 917	95	64	61
Greece	322	339	243	105	72	75
Ireland	43	55	55	128	100	128
Italy	8 246	7 779	4 112	94	53	50
Netherlands	3 180	3 062	2 266	96	74	71
Portugal	1 135	1 076	352	95	33	31
Spain	4 196	4 837	3 396	115	70	81
Sweden	9 879	9 771	1 760	99	18	18
United Kingdom	6 476	6 871	4 654	106	68	72
Czech Republic	785	807	319	103	40	41
Norway	2 260	2 516	287	111	11	13
Switzerland	1 591	1 613	1 082	101	67	68
Hungary	434	487	310	112	64	71
Romania	294	293	125	100	43	43
Slovakia	597	574	223	96	39	37
Turkey	1 356	649	692	48	107	51
Estonia	49	n.a.	n.a.			
Latvia	18	n.a.	4			19
Morocco	110	49	68	45	139	62
Japan	29 888	29 768	16 378	100	55	55
Korea, Rep. of	7 750	7 988	5 764	103	72	74
Malaysia	850	1 100	1 100	129	100	129
Myanmar	49	44	36	90	82	73
Pakistan	59	55	68	93	124	115
Thailand	2 697	2 580	1 594	96	62	59
Australia ¹	2 542	n.a.	1 463			58
Total	245 397	223 327	107 949	91	48	44

¹ Australia data covers 07/96 to 06/97 and 07/97 to 06/98 instead of 1997 and 1998.

Table 6. Composition of recovered paper in 1997 in percent

Country	Total Recovered Paper	Old and overissue newspaper, magazines, telephones directories, brochures etc.	Corrugated, solid containers and kraft sack waste (old and new)	Wood-free printing and writing papers, punch cards and other high grade qualities	Mixed grades	All other types of recovered paper	De-inked market pulp
Canada	100	38	34	11	5	12	0
USA	100	15	56	8	13	8	0
Brazil	100	8	67	12	7	6	0
Chile	100	19	51	29	0	1	0
Mexico	100	26	55	16	0	2	0
Austria	100	40	33	5	22	0	0
Belgium	100	29	42	3	26	0	0
Denmark	100	18	40	25	17	0	0
Finland	100	42	37	14	7	0	0
France	100	23	56	10	11	0	0
Germany	100	28	29	13	30	0	0
Greece	100	5	73	7	15	0	0
Ireland	100	0	100	0	0	0	0
Italy	100	22	49	6	24	0	0
Netherlands	100	33	24	9	34	0	0
Portugal	100	22	51	10	17	0	0
Spain	100	14	57	20	10	0	0
Sweden	100	56	30	7	7	0	0
United Kingdom	100	24	43	20	13	0	0
Czech Republic	100	25	32	8	36	0	0
Hungary	100	17	52	4	27	0	0
Latvia	100	20	31	31	17	0	0
Norway	100	13	81	2	4	0	0
Romania	100	0	8	0	92	0	0
Slovakia	100	40	29	4	21	5	1
Switzerland	100	33	16	9	42	0	0
Turkey	100	11	47	8	29	5	0
Japan	100	25	48	9	14	3	1
Korea, Rep. of	100	24	47	6	0	23	0
Malaysia	100	2	96	2	0	0	0
Pakistan	100	0	0	0	100	0	0
Australia ¹	100	10	87	2	0	2	0
Total	100	22	48	10	14	5	0

¹ Australia data covers 07/96 to 06/97 and 07/97 to 06/98 instead of 1997 and 1998.

Table 6. Composition of recovered paper in 1998 in percent

Country	Total Recovered Paper	Old and overissue newspaper, magazines, telephones directories, brochures etc.	Corrugated, solid containers and kraft sack waste (old and new)	Wood-free printing and writing papers, punch cards and other high grade qualities	Mixed grades	All other types of recovered paper	De-inked market pulp
Canada	100	37	35	11	4	12	0
USA	100	15	57	8	13	7	0
Brazil	100	8	67	12	7	7	0
Chile	100	2	53	45	0	0	0
Mexico	100	23	56	19	0	2	0
Austria	100	36	34	8	22	0	0
Belgium	100	32	42	3	22	0	0
Denmark	100	17	42	24	17	0	0
Finland	100	45	31	11	12	0	0
France	100	23	56	9	12	0	0
Germany	100	30	28	13	30	0	0
Greece	100	7	72	8	12	0	0
Ireland	100	9	27	18	45	0	0
Italy	100	18	48	4	29	0	0
Netherlands	100	29	26	8	36	0	0
Portugal	100	3	60	23	15	0	0
Spain	100	13	53	19	15	0	0
Sweden	100	56	28	7	8	0	0
United Kingdom	100	25	44	20	12	0	0
Czech Republic	100	22	51	5	22	0	0
Hungary	100	8	54	4	35	0	0
Latvia	100	20	31	31	17	0	0
Norway	100	15	81	1	3	0	0
Romania	100	0	10	0	90	0	0
Slovakia	100	42	26	4	22	4	0
Switzerland	100	37	16	8	39	0	0
Turkey	100	15	49	6	30	0	0
Japan	100	26	46	9	14	3	1
Korea, Rep. of	100	29	46	4	0	21	0
Malaysia	100	2	95	2	1	0	0
Pakistan	100	0	0	0	100	0	0
Australia ¹	100	10	87	2	0	1	0
Total	100	22	48	10	14	5	0

¹ Australia data covers 07/96 to 06/97 and 07/97 to 06/98 instead of 1997 and 1998.

Table 7: Use of recovered paper by grades in 1997 in percent in 24 countries

Country	Recovered paper used for paper and paperboard	Newsprint	Other printing and writing papers	Household and sanitary paper	Kraftliner	Other linerboard and fluting medium	Other kraft wrapping and packaging paper	Folding boxboard	Other wrapping and packaging paper and paperboard	Other paper and paperboard n.e.s.	De-inked market pulp
USA	100	10	7	11	11	0	3	27	22	10	0
Mexico	100	26	17	0	0	0	55	0	0	2	0
Austria	100										
Belgium	100										
Finland	100										
France	100										
Germany	100										
Italy	100										
Netherlands	100										
Portugal	100										
Spain	100										
Sweden	100										
United Kingdom	100										
Hungary	100	0	6	14	0	60	12	0	7	1	0
Latvia	100	57	0	0	0	0	0	0	43	0	0
Norway	100	0	0	0	0	0	0	0	0	0	0
Romania	100	0	0	30	8	46	0	0	16	0	0
Slovakia	100	1	0	42	0	29	9	2	7	10	0
Switzerland	100	0	0	0	0	0	0	0	0	0	0
Malaysia	100	2	0	0	0	89	5	5	0	0	0
Myanmar	100	0	0	0	0	0	100	0	0	0	0
Pakistan	100	0	0	0	0	100	0	0	0	0	0
Thailand	100	15	0	3	0	68	0	10	3	0	0
Australia ¹	100	23	17	0	0	0	60	0	0	0	0

¹ Australia data covers 07/96 to 06/97 and 07/97 to 06/98 instead of 1997 and 1998.

Table 7. Use of recovered paper by grades in 1998 in percent in 24 countries (cont.)

Country	Recovered paper used for paper and paperboard	Newsprint	Other printing and writing papers	Household and sanitary paper	Kraftliner	Other linerboard and fluting medium	Other kraft wrapping and packaging paper	Folding boxboard	Other wrapping and packaging paper and paperboard	Other paper and paperboard n.e.s.	De-inked market pulp
USA	100	10	7	10	12	0	2	28	21	10	0
Mexico	100	23	19	0	0	0	55	0	0	2	0
Austria	100	14	17	8	0	38	0	21	3	1	0
Belgium	100	22	10	2	0	44	0	0	3	19	0
Finland	100	35	1	22	0	2	0	0	11	30	0
France	100	11	5	5	0	59	0	13	3	4	0
Germany	100	19	11	6	0	39	0	9	9	7	0
Italy	100	6	0	5	0	60	0	16	10	4	0
Netherlands	100	18	0	8	0	37	0	5	27	4	0
Portugal	100	0	0	17	0	63	0	6	12	2	0
Spain	100	5	2	12	0	57	0	14	2	9	0
Sweden	100	46	0	13	0	28	0	7	0	6	0
United Kingdom	100	21	7	12	0	40	0	2	12	7	0
Hungary	100	0	5	12	0	64	12	0	6	1	0
Latvia	100	25	0	0	0	25	0	0	50	0	0
Norway	100	0	0	14	0	75	0	0	11	0	0
Romania	100	0	0	31	10	42	0	0	16	0	0
Slovakia	100	0	0	44	0	26	8	2	8	12	0
Switzerland	100	29	4	11	0	37	0	18	1	0	0
Malaysia	100	2	0	0	0	87	5	5	0	0	0
Myanmar	100	0	0	0	0	0	0	100	0	0	0
Pakistan	100	0	0	0	0	100	0	0	0	0	0
Thailand	100	22	0	3	0	61	0	11	3	0	0
Australia ¹	100	20	18	0	0	0	63	0	0	0	0
Total	100	14	7	8	5	24	5	17	13	7	0

¹ Australia data covers 07/96 to 06/97 and 07/97 to 06/98 instead of 1997 and 1998.

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 8 – *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.

PROJECTED FUTURE RECOVERY OF WASTE PAPER

Table 9 – *Projected future recovery of waste paper and use of recovered paper for paper and paperboard making in 12 countries* shows projections for the next five 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 1998 level taken as a base line (100 percent).

Table 8. Losses in repulping and processing into paper and paperboard in 37 countries in 1997 and 1998

Country	1997			1998		
	Total recovered paper used	Losses in pulping		Total recovered paper used	Losses in pulping	
	1000 mt	1000 mt	%	1000 mt	1000 mt	%
Canada	4 668	700	15	4 810	722	15
USA	31 941	n.a.		32 943	n.a.	
Brazil	2 239	335	15	2 295	344	15
Chile	n.a.	n.a.		n.a.	n.a.	
El Salvador	n.a.	n.a.		n.a.	n.a.	
Mexico	3 278	596	18	3 395	575	17
Austria	1 642	n.a.		1 732	n.a.	
Belgium	482	n.a.		526	n.a.	
Denmark	410	n.a.		415	n.a.	
Finland	609	n.a.		633	n.a.	
France	4 467	n.a.		4 931	n.a.	
Germany	9 457	n.a.		9 917	n.a.	
Greece	275	n.a.		243	n.a.	
Ireland	54	n.a.		55	n.a.	
Italy	3 953	n.a.		4 112	n.a.	
Netherlands	2 245	n.a.		2 266	n.a.	
Portugal	322	n.a.		352	n.a.	
Spain	3 032	n.a.		3 396	n.a.	
Sweden	1 652	n.a.		1 760	n.a.	
United Kingdom	4 618	n.a.		4 654	n.a.	
Czech Republic	247	n.a.		319	n.a.	
Norway	256	n.a.		287	n.a.	
Switzerland	1 032	n.a.		1 082	n.a.	
Hungary	283	42	15	310	47	15
Romania	122	95	78	125	98	78
Slovakia	188	28	15	223	31	14
Turkey	689	n.a.		692	n.a.	
Latvia	4	1	14	4		
Morocco	61	6	10	68	7	10
Japan	16 661	n.a.		16 378	n.a.	
Korea, Rep. of	6 086	n.a.		5 764	n.a.	
Malaysia	1 000	n.a.		1 100	n.a.	
Myanmar	36	9	25	36	9	25
Pakistan	63	12	19	68	13	19
Thailand	1 495	n.a.		1 594	n.a.	
Australia ¹	1 488	n.a.		1 463	n.a.	

¹ Australia data covers 07/96 to 06/97 and 07/97 to 06/98 instead of 1997 and 1998.

Table 9. Projected future recovery of waste paper and use of recovered paper for paper and paperboard making in 12 countries

Country	Waste paper collected for re-use					Recovered paper used for paper and paperboard				
	percent					percent				
	1998	1999	2000	2001	2002	1998	1999	2000	2001	2002
USA	100	103	107	108	111	100	103	107	108	111
Brazil	100	103	111	120	130	100	103	111	120	130
Mexico	100	105	110	116	123	100	105	110	116	123
Hungary	100	107	114	122	131	100	105	110	116	122
Latvia	100	109	114	129	143	100	100	143	143	229
Romania	100	103	144	223	234	100	104	145	227	291
Slovakia	100	112	124	139	154	100	105	109	117	127
Morocco	100	100	100	100	100	100	100	100	100	100
Japan	100	100	103	105	107	100	101	103	104	106
Korea, Rep. of						100	104	108	113	118
Myanmar	100	100	100	100	133	100	100	100	100	133
Pakistan	100	106	111	117	123	100	113	124	134	144

APPENDIX 1: QUESTIONNAIRES

FAO RECOVERED PAPER SURVEY (1999)

Part 1: Main Questionnaire

COUNTRY:

(All figures in 000 metric tons)

	1997	1998
1. Apparent consumption of paper and paperboard		
2. Net trade in converted paper and paperboard products		
3. Net recoverable paper and paperboard		
4. Waste paper collected for re-use		
5. Recovered paper used for energy generation		
6. Exports of recovered paper*		
7. Imports of recovered paper*		
8a Recovered paper* used domestically for purposes other than paper and paperboard making		
8b 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) All other types of recovered papers		
9. Losses in repulping and processing into paper and paperboard		
10. Total fibre used for paper and paperboard		
11. Paper and paperboard production		

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

FAO RECOVERED PAPER SURVEY (1999)

Part 2: Use of the main types of recovered paper in the manufacture of major grades of paper and paperboard

COUNTRY:

(All figures in 000 metric tons)

Major grades of paper and paperboard	Types of recovered paper	Recovered paper* used domestically for paper and paperboard making. Total recovered paper [8b.]#	Old and over-issue newspapers, magazines, telephone directories, brochures, etc. [8b.(i)]#	Corrugated, solid container and kraft sack waste (old and new) [8b.(ii)]#	Wood-free printing and writing papers, punch cards and other high-grade qualities [8b.(iii)]#	All other types of recovered paper [8b.(iv)]#
Paper and paperboard Total	1997					
	1998					
Newsprint	1997					
	1998					
Household and sanitary paper	1997					
	1998					
Other linerboard and fluting medium	1997					
	1998					
Other kraft wrapping and packaging paper	1997					
	1998					
Folding boxboard	1997					
	1998					
Other wrapping and packaging paper and paperboard	1997					
	1998					
Other paper and paperboard, n.e.s.	1997					
	1998					

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

same headings as in Part 1: Main Questionnaire.

FAO RECOVERED PAPER SURVEY (1999)

Part 3: Projected future consumption and supply of recovered paper

COUNTRY:

(All figures in 000 metric tons)

	1998	1999	2000	2001	2002
Waste paper collected for re-use [4]#					
Exports of recovered paper *[6]#					
Imports of recovered paper *[7]#					
Recovered paper * used domestically for purposes other than paper and paperboard manufacturing [8]#					
Recovered paper * used domestically for paper and paperboard manufacturing [8b]#					

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

Same headings as in Part 1: Main Questionnaire.

FAO RECOVERED PAPER SURVEY (1999)

Part 4: Recovered paper EXPORTS by country of destination

COUNTRY:

(All figures in 000 metric tons)

Recovered paper* EXPORTS to: (indicate countries of destination)	1997	1998
Total exports of recovered papers * [6]#		

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

Same headings as in Part 1: Main Questionnaire.

FAO RECOVERED PAPER SURVEY (1999)

Part 5: Recovered paper IMPORTS by country of destination

COUNTRY:

(All figures in 000 metric tons)

Recovered paper* IMPORTS to: (indicate countries of origin)	1997	1998
Total imports of recovered papers * [6]#		

* 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 WASTE PAPER SURVEY QUESTIONNAIRE

1. Apparent consumption of paper and paperboard is the quantity of paper and paperboard consumed within a country without taking into account the changes in stocks. It is thus paper and paperboard production within the country plus imports minus exports.
2. Net trade in converted paper and paperboard products (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. This factor is used to adjust the apparent consumption of paper and paperboard in order to arrive at adjusted paper and paperboard consumption.
3. Non-recoverable paper and paperboard is the portion of adjusted paper and paperboard consumption which will not be technically available for recovery because of destruction, contamination or permanent conservation. In order to avoid having excessively long lists of all paper grades which are non-recoverable, only grades representing major quantities are listed below as examples.

FAO Production Code No.	Examples of Non-Recoverable Paper and Paperboard
4.2 (part)	Some part of printing and writing papers retained in libraries, archives, etc., in the form of books and permanent records
4.31 (total)	Household and sanitary paper
4.32.51 (part)	Vegetable parchment, greaseproof and glassine
4.33.1 (part)	Carbonizing tissue Condenser and capacitor paper Cable paper Cigarette paper Kraft paper used for waxing, asphaltting, water-proofing, laminating, impregnating, spinning or twisting, gumming, etc. Blotting paper Filter paper Photographic sensitizing paper Wallpaper base stock
4.33.2 (part)	Construction paper and paperboard Wet machine board, e.g. shoe, gasket, transformer, press, textile, panel, beer mat, trunk and suitcase boards, etc.

or other totally non recoverable paper and paperboard.

4. Waste paper collected for re-use means the total quantity of waste paper collected from any sources of supply, in any form and for any kind of major industrial or commercial uses (including also other uses than paper and paperboard manufacturing). Broke, trimmings, tailings, etc., occurring in the paper manufacturing process cycle should, however, be excluded.

The annual volume of waste paper collected for re-use can be estimated by the following sequence shown below:

		<u>metric tons</u>
	recovered paper used domestically for paper and paperboard	...
plus	recovered paper used for purposes other than paper and paperboard making such as: moulded products, in bulk as wrapping or packaging material, any other major industrial or commercial purpose	...
less	imports of recovered paper for any kind of use	...
plus	exports of recovered paper for any kind of use	...
SUM	recovered paper collected for re-use	<hr style="border-top: 1px solid black;"/> <hr style="border-top: 3px double black;"/>

5. Recovered paper used for energy generation is the quantity of paper and paperboard sent to incineration plants which generate energy for any kind of use.
6. & 7. 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.
- 8a. 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.
- 8b. 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.

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.

- 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 print-outs, and other high-grade qualities, i.e. recovered paper containing mainly bleached chemical pulp.
 - iv) All other types of recovered paper.
9. 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.
10. 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.
11. Paper and paperboard production is the quantity of all paper and paperboard of commercial quality (fibre building boards not included) produced within a country.

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 1997

Country	Apparent consumption of paper and paperboard	Net trade in converted paper and paperboard products	Adjusted consumption of paper and paperboard	Non-recoverable paper and paperboard	Waste paper collected for re-use	Waste paper net recovery rate	Adjusted waste paper net recovery rate	Recovered paper used for energy	Exports of recovered paper
	1000 mt	1000 mt	1000 mt	1000 mt	1000 mt	percent	percent	1000 mt	1000 mt
Canada	6 900.0	n.a.	6 900.0	n.a.	2 570.0	37.2	37.2	n.a.	688.0
USA	90 318.0	1 129.0	91 447.0	7 677.0	39 689.0	43.4	47.4	13 813.0	7 151.0
Brazil	6 167.0	n.a.	6 167.0	933.0	2 220.0	36.0	42.4	n.a.	3.0
Chile	243.0	n.a.	243.0	n.a.	252.0	103.7	103.7	n.a.	13.0
El Salvador	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	2.0
Mexico	4 324.8	n.a.	4 324.8	n.a.	3 278.2	75.8	75.8	n.a.	
Austria	1 635.8	n.a.	1 635.8	302.6	1 121.0	68.5	84.1	n.a.	92.6
Belgium	2 809.5	n.a.	2 809.5	519.7	1 263.1	45.0	55.2	n.a.	1 021.4
Denmark	1 230.4	n.a.	1 230.4	227.6	630.0	51.2	62.8	n.a.	305.0
Finland	1 045.0	n.a.	1 045.0	193.3	635.0	60.8	74.6	n.a.	49.3
France	10 781.9	n.a.	10 781.9	1 994.6	4 218.6	39.1	48.0	n.a.	749.7
Germany	16 042.9	n.a.	16 042.9	2 967.9	11 493.0	71.6	87.9	n.a.	3 056.8
Greece	924.6	n.a.	924.6	175.8	302.0	32.7	40.3	n.a.	42.0
Ireland	434.1	n.a.	434.1	80.3	95.6	22.0	27.0	n.a.	53.0
Italy	9 623.4	n.a.	9 623.4	1 780.3	3 080.4	32.0	39.3	n.a.	52.6
Netherlands	4 077.1	n.a.	4 077.1	754.3	2 379.0	58.4	71.6	n.a.	1 253.6
Portugal	867.0	n.a.	867.0	160.4	362.0	41.8	51.2	n.a.	54.6
Spain	5 598.6	n.a.	5 598.6	1 035.7	2 354.0	42.0	51.6	n.a.	38.4
Sweden	2 142.8	n.a.	2 142.8	396.4	1 326.0	61.9	75.9	n.a.	193.5
United Kingdom	12 224.8	n.a.	12 224.8	2 261.6	5 023.6	41.1	50.4	n.a.	439.8
Czech Republic	868.9	n.a.	868.9	160.7	284.3	32.7	40.1	n.a.	47.7
Norway	813.0	n.a.	813.0	150.4	431.4	53.1	65.1	n.a.	216.7
Switzerland	1 595.9	n.a.	1 595.9	295.2	1 003.5	62.9	77.2	n.a.	214.3
Hungary	595.0	46.0	641.0	119.0	251.0	39.2	48.1	61.0	17.0
Romania	365.0	44.0	409.0	44.0	119.0	29.1	32.6	n.a.	0.0
Slovakia	365.0	-64.0	301.0	26.0	122.0	40.5	44.4	n.a.	5.0
Turkey	1 984.0	349.0	2 333.0	n.a.					2.0
Estonia	28.4	-40.7	-12.3	3.3	2.3	-18.7	-14.7	n.a.	11.4
Latvia	91.0	35.0	126.0	24.0	28.0	22.2	27.5	3.0	16.0
Morocco	276.0	169.0	445.0	n.a.	35.0	7.9	7.9	n.a.	
Japan	32 241.0	119.0	32 360.0	5 501.0	16 544.0	51.1	61.6	n.a.	312.0
Korea, Rep. of	6 900.0	n.a.	6 900.0	n.a.	n.a.	0.0	0.0	n.a.	
Malaysia	1 698.0	2 500.0	4 198.0	750.0	1 000.0	23.8	29.0	n.a.	2.0
Myanmar	112.0	62.0	174.0	1.0	45.0	25.9	26.0	n.a.	
Pakistan	438.0	181.0	619.0	261.0	35.0	5.7	9.8	n.a.	
Thailand	2 335.0	-56.0	2 279.0	74.0	873.0	38.3	39.6	n.a.	
Australia ¹	3 137.0	n.a.	3 137.0	n.a.	1 526.0	48.6	48.6	n.a.	85.0

¹ Australia data covers 07/96 to 06/97 and 07/97 to 06/98 instead of 1997 and 1998.

Appendix 3: Waste paper recovery and utilization of recovered paper in paper and paperboard industry in 1997 (cont.)

Country	Imports of recovered paper	Recovered paper used for other purposes than paper and paperboard	Recovered paper used for paper and paperboard	Losses in repulping and processing into paper and paperboard	Total fibre used for paper and paperboard	Paper and paperboard production	Recovered paper in fibre use rate	Total fibre/ paper and paperboard production	Recovered paper utilization rate
	1000 mt	1000 mt	1000 mt	1000 mt	1000 mt	1000 mt	percent	percent	percent
Canada	2 092.0	n.a.	4 668.0	700.0	n.a.	18 973.0			24.6
USA	629.0	1 225.0	31 941.0	n.a.	88 490.0	87 874.0	36.1	100.7	36.3
Brazil	22.0	n.a.	2 239.0	335.0	6 464.0	6 517.0	34.6	99.2	34.4
Chile	4.0	n.a.	n.a.	n.a.	n.a.	n.a.			
El Salvador	13.0	n.a.	n.a.	n.a.	n.a.	n.a.			
Mexico	1 354.1	n.a.	3 278.2	596.4	4 087.9	3 491.5	80.2	117.1	93.9
Austria	613.8	n.a.	1 642.2	n.a.	3 378.7	3 817.1	48.6	88.5	43.0
Belgium	240.3	n.a.	482.0	n.a.	1 148.0	1 490.7	42.0	77.0	32.3
Denmark	85.0	n.a.	410.0	n.a.	493.6	336.0	83.1	146.9	122.0
Finland	83.3	n.a.	608.7	n.a.	10 045.2	12 149.0	6.1	82.7	5.0
France	997.8	n.a.	4 466.7	n.a.	8 773.9	9 144.7	50.9	95.9	48.8
Germany	1 021.2	n.a.	9 457.4	n.a.	15 096.5	15 930.4	62.6	94.8	59.4
Greece	15.0	n.a.	275.0	n.a.	404.0	347.0	68.1	116.4	79.3
Ireland	11.4	n.a.	54.0	n.a.	54.0	43.4	100.0	124.4	124.4
Italy	925.4	n.a.	3 953.2	n.a.	7 572.7	8 031.3	52.2	94.3	49.2
Netherlands	1 119.7	n.a.	2 245.1	n.a.	3 046.7	3 159.2	73.7	96.4	71.1
Portugal	14.6	n.a.	322.0	n.a.	1 032.7	1 076.0	31.2	96.0	29.9
Spain	716.4	n.a.	3 032.0	n.a.	4 411.6	3 967.8	68.7	111.2	76.4
Sweden	557.8	n.a.	1 652.0	n.a.	9 575.5	9 756.4	17.3	98.1	16.9
United Kingdom	34.3	n.a.	4 618.1	n.a.	6 929.6	6 479.7	66.6	106.9	71.3
Czech Republic	10.8	n.a.	247.4	n.a.	676.6	792.1	36.6	85.4	31.2
Norway	41.7	n.a.	256.4	n.a.	2 402.4	2 209.1	10.7	108.8	11.6
Switzerland	242.9	n.a.	1 032.1	n.a.	1 586.4	1 582.4	65.1	100.3	65.2
Hungary	60.0	11.0	283.0	42.0	464.0	410.0	61.0	113.2	69.0
Romania	9.0	6.0	122.0	95.0	318.0	324.0	38.4	98.1	37.7
Slovakia	72.0	n.a.	188.0	28.0	544.0	543.0	34.6	100.2	34.6
Turkey	61.0	106.0	689.0	n.a.	618.0	1 245.0	111.5	49.6	55.3
Estonia	0.7	n.a.				39.0			
Latvia		n.a.	3.5	0.5		16.0			21.9
Morocco	26.0	n.a.	61.0	6.0	52.0	107.0	117.3	48.6	57.0
Japan	362.0	n.a.	16 661.0	n.a.	30 814.0	31 014.0	54.1	99.4	53.7
Korea, Rep. of	1 452.0	n.a.	6 086.0	n.a.	8 776.0	8 364.0	69.3	104.9	72.8
Malaysia	12.0	n.a.	1 000.0	n.a.	1 000.0	783.0	100.0	127.7	127.7
Myanmar	0.0	9.0	36.0	9.0	45.0	50.0	80.0	90.0	72.0
Pakistan	28.0	n.a.	63.0	12.0	51.0	55.0	123.5	92.7	114.5
Thailand	622.0	n.a.	1 495.0	n.a.	2 362.0	2 411.0	63.3	98.0	62.0
Australia ¹	47.0	n.a.	1 488.0	n.a.	n.a.	2 420.0			61.5

¹ Australia data covers 07/96 to 06/97 and 07/97 to 06/98 instead of 1997 and 1998.

APPENDIX 4: WASTE PAPER RECOVERY AND UTILIZATION OF RECOVERED PAPER IN PAPER AND PAPERBOARD INDUSTRY IN 1998

Country	Apparent consumption of paper and paperboard	Net trade in converted paper and paperboard products	Adjusted consumption of paper and paperboard	Non-recoverable paper and paperboard	Waste paper collected for re-use	Waste paper net recovery rate	Adjusted waste paper net recovery rate	Recovered paper used for energy	Exports of recovered paper
	1000 mt	1000 mt	1000 mt	1000 mt	1000 mt	percent	percent	1000 mt	1000 mt
Canada	7 127.0	n.a.	7 127.0	n.a.	2 624.0	36.8	36.8	n.a.	578.0
USA	91 913.0	1 083.0	92 996.0	7 813.0	41 103.0	44.2	48.3	13 889.0	7 354.0
Brazil	6 276.0	n.a.	6 276.0	948.0	2 276.0	36.3	42.7	n.a.	3.0
Chile	220.0	n.a.	220.0	n.a.	233.0	105.9	105.9	n.a.	14.0
El Salvador	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	2.0
Mexico	4 589.3	n.a.	4 589.3	n.a.	3 395.4	74.0	74.0	n.a.	n.a.
Austria	1 795.0	n.a.	1 795.0	332.1	1 162.7	64.8	79.5	n.a.	91.8
Belgium	2 977.3	n.a.	2 977.3	550.8	1 424.5	47.8	58.7	n.a.	1 325.9
Denmark	1 227.5	n.a.	1 227.5	227.1	635.0	51.7	63.5	n.a.	305.0
Finland	1 050.0	n.a.	1 050.0	194.2	665.1	63.3	77.7	3.2	90.7
France	11 363.3	n.a.	11 363.3	2 102.2	4 614.0	40.6	49.8	n.a.	838.0
Germany	17 039.5	n.a.	17 039.5	3 152.3	11 913.2	69.9	85.8	n.a.	3 003.5
Greece	950.1	n.a.	950.1	171.1	203.0	21.4	26.1	n.a.	10.0
Ireland	441.4	n.a.	441.4	81.7	91.7	20.8	25.5	n.a.	48.8
Italy	9 919.0	n.a.	9 919.0	1 835.0	3 300.3	33.3	40.8	250.0	41.6
Netherlands	4 380.3	n.a.	4 380.3	810.5	2 534.7	57.9	71.0	n.a.	1 338.8
Portugal	950.0	n.a.	950.0	175.7	394.8	41.6	51.0	n.a.	55.9
Spain	6 072.1	n.a.	6 072.1	1 123.3	2 634.5	43.4	53.2	n.a.	53.4
Sweden	2 154.6	n.a.	2 154.6	398.6	1 378.0	64.0	78.5	n.a.	169.2
United Kingdom	12 473.8	n.a.	12 473.8	2 307.6	5 028.1	40.3	49.5	10.0	402.3
Czech Republic	882.0	n.a.	882.0	163.2	335.0	38.0	46.6	100.0	60.0
Norway	838.0	n.a.	838.0	155.0	453.4	54.1	66.4	131.8	218.6
Switzerland	1 637.6	n.a.	1 637.6	303.0	1 061.9	64.8	79.6	n.a.	210.0
Hungary	654.0	60.0	714.0	161.0	291.0	40.8	52.6	64.0	31.0
Romania	400.0	82.0	482.0	82.0	115.0	23.9	28.8	n.a.	0.0
Slovakia	404.0	-65.0	339.0	28.0	140.0	41.3	45.0	n.a.	11.0
Turkey	2 085.0	-32.0	2 053.0	n.a.	n.a.	n.a.	n.a.	n.a.	5.0
Estonia	37.7	-18.0	19.7	4.5	2.3	11.7	15.1	n.a.	11.9
Latvia	100.0	40.0	140.0	28.0	35.0	25.0	31.3	5.0	19.0
Morocco	281.0	171.0	452.0	n.a.	35.0	7.7	7.7	n.a.	n.a.
Japan	29 950.0	151.0	30 101.0	5 117.0	16 566.0	55.0	66.3	n.a.	561.0
Korea, Rep. of	5 275.0	n.a.	5 275.0	n.a.	n.a.	n.a.	0.0	n.a.	n.a.
Malaysia	1 740.0	2 562.0	4 302.0	800.0	1 100.0	25.6	31.4	n.a.	2.0
Myanmar	108.0	59.0	167.0	1.0	45.0	26.9	27.1	n.a.	n.a.
Pakistan	450.0	155.0	605.0	270.0	35.0	5.8	10.4	n.a.	n.a.
Thailand	1 941.0	-756.0	1 185.0	63.0	869.0	73.3	77.5	n.a.	0.0
Australia ¹	3 259.0	n.a.	3 259.0	n.a.	1 557.0	47.8	47.8	n.a.	137.0

¹ Australia data covers 07/96 to 06/97 and 07/97 to 06/98 instead of 1997 and 1998.

Appendix 4: Waste paper recovery and utilization of recovered paper in paper and paperboard industry in 1998 (cont.)

Country	Imports of recovered paper	Recovered paper used for other purposes than paper and paperboard	Recovered paper used for paper and paperboard	Losses in repulping and processing into paper and paperboard	Total fibre used for paper and paperboard	Paper and paperboard production	Recovered paper in fibre use rate	Total fibre/ paper and paperboard production	Recovered paper utilization rate
	1000 mt	1000 mt	1000 mt	1000 mt	1000 mt	1000 mt	percent	percent	percent
Canada	2 205.0	n.a.	4 810.0	722.0	n.a.	18 714.0			25.7
USA	464.0	1 270.0	32 943.0	n.a.	90 122.0	87 549.0	36.6	102.9	37.6
Brazil	22.0	n.a.	2 295.0	344.0	6 596.0	6 589.0	34.8	100.1	34.8
Chile	2.0	n.a.	n.a.	n.a.	n.a.	n.a.			
El Salvador	17.0	n.a.	n.a.	n.a.	n.a.	n.a.			
Mexico	1 272.4	n.a.	3 395.4	574.7	4 244.0	3 669.4	80.0	115.7	92.5
Austria	661.2	n.a.	1 732.1	n.a.	3 511.1	4 009.3	49.3	87.6	43.2
Belgium	427.4	n.a.	526.0	n.a.	1 186.3	1 544.7	44.3	76.8	34.1
Denmark	85.0	n.a.	415.0	n.a.	492.4	340.2	84.3	144.7	122.0
Finland	58.5	9.3	632.5	n.a.	10 341.8	12 702.0	6.1	81.4	5.0
France	1 155.0	n.a.	4 931.0	n.a.	9 026.0	9 161.3	54.6	98.5	53.8
Germany	1 007.4	n.a.	9 917.1	n.a.	15 493.9	16 310.9	64.0	95.0	60.8
Greece	50.0	n.a.	243.0	n.a.	339.0	322.0	71.7	105.3	75.5
Ireland	12.1	n.a.	55.0	n.a.	55.0	43.0	100.0	127.9	127.9
Italy	853.7	n.a.	4 112.4	n.a.	7 779.4	8 245.5	52.9	94.3	49.9
Netherlands	1 070.3	n.a.	2 266.2	n.a.	3 062.4	3 179.6	74.0	96.3	71.3
Portugal	12.7	n.a.	351.6	n.a.	1 075.6	1 135.0	32.7	94.8	31.0
Spain	815.2	n.a.	3 396.3	n.a.	4 837.1	4 196.3	70.2	115.3	80.9
Sweden	549.2	15.0	1 760.4	n.a.	9 770.6	9 879.3	18.0	98.9	17.8
United Kingdom	28.6	170.0	4 654.4	n.a.	6 870.8	6 476.2	67.7	106.1	71.9
Czech Republic	44.3	232.0	319.3	n.a.	807.4	785.3	39.5	102.8	40.7
Norway	52.6	369.7	287.4	n.a.	2 516.4	2 260.2	11.4	111.3	12.7
Switzerland	229.6	n.a.	1 081.5	n.a.	1 612.8	1 591.3	67.1	101.4	68.0
Hungary	62.0	12.0	310.0	47.0	487.0	434.0	63.7	112.2	71.4
Romania	16.0	6.0	125.0	98.0	293.0	294.0	42.7	99.7	42.5
Slovakia	94.0	n.a.	223.0	31.0	574.0	597.0	38.9	96.1	37.4
Turkey	39.0	102.0	692.0	n.a.	649.0	1 356.0	106.6	47.9	51.0
Estonia	0.3	n.a.	n.a.	n.a.	n.a.	49.2			
Latvia		n.a.	3.5	5.0	n.a.	18.0			19.4
Morocco	33.0	n.a.	68.0	7.0	49.0	110.0	138.8	44.5	61.8
Japan	294.0	n.a.	16 378.0	n.a.	29 768.0	29 888.0	55.0	99.6	54.8
Korea, Rep. of	1 963.0	n.a.	5 764.0	n.a.	7 988.0	7 750.0	72.2	103.1	74.4
Malaysia	15.0	n.a.	1 100.0	n.a.	1 100.0	850.0	100.0	129.4	129.4
Myanmar	0.0	9.0	36.0	9.0	44.0	49.0	81.8	89.8	73.5
Pakistan	33.0	n.a.	68.0	13.0	55.0	59.0	123.6	93.2	115.3
Thailand	725.0	n.a.	1 594.0	n.a.	2 580.0	2 697.0	61.8	95.7	59.1
Australia ¹	43.0	n.a.	1 463.0	n.a.	n.a.	2 542.0			57.6

¹ Australia data covers 07/96 to 06/97 and 07/97 to 06/98 instead of 1997 and 1998.

APPENDIX 5: EXPORTS OF RECOVERED PAPER BY COUNTRY OF DESTINATION IN 1997 (thousand tons) (Source: CEPI)

<i>to</i>	<i>from</i>	Austria	Belgium	Denmark	Finland	France	Germany	Greece	Ireland	Italy	Netherlands	Portugal	Spain	Sweden	UK	Total EU
Austria			2.1		0.1		370.9			0.6	7.4		0.4	11.6	2.3	395.4
Belgium							115.7				53.6			0.7	3.3	173.3
Denmark							38.4				0.3			17.6		56.3
Finland							1.8							18.4		20.2
France			244.7		0.1		354.2			0.8	51.6	0.2	5.0	2.3	70.8	729.7
Germany		34.4	82.3		18.4					1.0	424.9		1.0	43.7	60.3	666.0
Greece							1.8							0.8		2.6
Ireland															4.6	4.6
Italy		28.8	4.5		0.1		395.7				0.8		5.1	27.6	50.0	512.6
Netherlands		1.4	311.0		4.4		592.6						0.8	6.2	72.6	989.0
Portugal			0.4								0.1		1.5	0.3	0.7	3.0
Spain			2.6				80.7			0.2	2.0	54.4		5.8	25.5	171.2
Sweden					11.8		143.0				25.8				77.6	258.2
United Kingdom			17.5		1.4		10.7				65.2		0.1	7.5		102.4
Total EU		64.6	665.1	297.5	36.3	708.8	2105.5	20.0	53.0	2.6	631.7	54.6	13.9	142.5	367.7	5163.8
Belarus					0.8											0.8
Bulgaria		4.3	0.4		0.1		6.9			5.1						16.8
Croatia		0.8					18.1			19.0						37.9
Czech Republic		2.1	0.1				8.1									10.3
Estonia					0.2											0.2
Fed. Rep. of Yugoslavia																0.0
Former Yug. Rep. of Macedonia		0.1														0.1
Hungary		1.1					47.4			0.1						48.6
Iceland															0.6	0.6
Latvia					0.1		0.1									0.2
Lithuania																0.0
Norway					2.1						1.1			32.1	2.6	37.9
Poland							12.0							2.4		14.4
Romania							0.6									0.6
Russia					2.4											2.4
Slovak Republic		2.3					24.5									26.8
Slovenia		12.8					36.1			8.5	0.1			0.2	0.3	58.0
Switzerland		4.5	1.2		2.9	29.9	141.5			0.1	3.5			2.5	2.1	188.2
Turkey			8.9		0.2					15.4	4.9				3.0	32.4
Ukraine					0.4											0.4
Total Other Europe		28.0	10.6	0.0	9.2	29.9	295.3	0.0	0.0	48.2	9.6	0.0	0.0	37.2	8.6	476.6
Canada															0.5	0.5
USA			3.9		0.2		0.6				16.2			1.0	3.6	25.5
Total North America		0.0	3.9	0.0	0.2	0.0	0.6	0.0	0.0	0.0	16.2	0.0	0.0	1.0	4.1	26.0
Brazil			0.1													0.1
Mexico																0.0
Venezuela																0.0
Total South America		0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
India			31.5		0.7		36.1				56.8			2.2	3.3	130.6
China			37.5		1.8		11.1				37.6			4.6	4.2	96.8
Hong Kong, SAR of China			9.0				8.9				16.5				0.7	35.1
Indonesia			195.7				211.0			0.5	240.4			3.0	18.3	668.9
Japan																0.0
Malaysia			1.0								0.7			0.8		2.5
Philippines			14.5				5.4				50.2			1.4	0.3	71.8
Korea, Rep. of			14.6				30.8				31.2				14.9	91.5
Thailand			21.5				73.3				65.4				1.1	161.3
Total Asia		0.0	338.3	0.0	2.6	0.0	625.1	0.0	0.0	0.5	566.3	0.0	0.0	12.0	47.9	1592.7
Other		0.0	3.4	7.5	1.0	11.0	30.3	22.0	0.0	1.3	29.8	0.0	24.5	0.8	11.5	143.1
Grand Total		92.6	1008.4	305.0	49.2	749.7	2808.3	42.0	53.0	52.6	1186.1	54.6	38.4	193.5	434.7	7068.1

Notes: Denmark, Greece and Ireland: figures have been estimated; Australia data covers 07/96 to 06/97 and 07/97 to 06/98 instead of 1997 and 1998.

Appendix 5: Exports of recovered paper by country of destination in 1997 (thousand tons) (Source: CEPI) (cont.)

<i>to</i>	<i>from</i>	Czech Rep.	Estonia	Hungary	Latvia	Norway	Slovakia	Switzerland	Canada	USA	Brazil	Chile	El Salvador	Japan	Malaysia	Australia
Austria				2.0												
Belgium																
Denmark																
Finland			3.1													
France																
Germany																
Greece																
Ireland																
Italy									5.0							
Netherlands																
Portugal																
Spain																
Sweden																
United Kingdom																
Total EU		4.8	3.1	2.0	0.0	141.7	0.0	212.6	5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Belarus					3.5											
Bulgaria																
Croatia				1.0												
Czech Republic																
Estonia					0.1											
Fed. Rep. of Yugoslavia				4.0												
Former Yug. Rep. of Macedonia																
Hungary																
Iceland																
Latvia																
Lithuania			2.0		2.6											
Norway																
Poland																
Romania				1.0												
Russia			0.2													
Slovak Republic				1.0												
Slovenia				3.0												
Switzerland																
Turkey																
Ukraine			6.2	5.0	10.0		5.0									
Total Other Europe		0.0	8.4	15.0	16.2	0.0	5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Canada										1750.0						
USA									598.0							
Total North America		0.0	0.0	0.0	0.0	0.0	0.0	0.0	598.0	1750.0	0.0	0.0	0.0	0.0	0.0	0.0
Brazil																
Mexico										1110.0			0.1			
Venezuela										171.0						
Total South America		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1281.0	0.0	0.0	0.1	0.0	0.0	0.0
India										164.0						
China										787.0	2.0			26.0		0.4
Hong Kong, SAR of China																
Indonesia										345.0				28.0		73.3
Japan										329.0						
Malaysia																
Philippines																
Korea, Rep. of									10.0	969.0				5.0		
Thailand										214.0				60.0		2.4
Total Asia		0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.0	2808.0	2.0	0.0	0.0	119.0	10.0	81.6
Other		42.9	0.0	0.0	0.0	75.0	0.0	1.7	75.0	549.0	1.0	13.3	1.9	5.0	8.0	3.0
Grand Total		47.7	11.4	17.0	16.2	216.7	5.0	214.3	688.0	6388.0	3.0	13.3	2.0	124.0	18.0	84.6

Notes: Denmark, Greece and Ireland: figures have been estimated; Australia data covers 07/96 to 06/97 and 07/97 to 06/98 instead of 1997 and 1998.

APPENDIX 6: EXPORTS OF RECOVERED PAPER BY COUNTRY OF DESTINATION IN 1998 (thousand tons) (Source: CEPI)

<i>to</i>	<i>from</i>	Austria	Belgium	Denmark	Finland	France	Germany	Greece	Ireland	Italy	Netherlands	Portugal	Spain	Sweden	UK	Total EU
Austria			1.0		1.2	0.8	364.9			0.3	3.0		0.2	7.2	2.5	381.1
Belgium					0.1	17.2	95.0				64.0			0.5	1.1	177.9
Denmark							41.3				0.4			15.1		56.8
Finland							0.2						0.1	25.0		25.4
France			249.6		0.7		335.8			0.6	72.7	1.9	3.6	0.9	61.2	727.0
Germany	33.1		122.9		47.7	110.2				1.8	406.2		3.5	31.3	52.8	809.5
Greece							3.6									3.6
Ireland							0.5							0.6	5.4	6.5
Italy	21.4		3.3			100.7	367.5				3.2		11.0	21.8	20.9	549.8
Netherlands	1.1		339.8		1.1	22.6	556.5							0.9	58.3	980.3
Portugal			0.2		0.1	1.6	0.3						1.5			3.7
Spain			2.2		0.1	510.0	66.2			0.1	1.3	52.5		7.6	10.1	650.1
Sweden					16.2		145.2				10.5				83.2	255.1
United kingdom			15.5		1.4	5.2	3.7			0.1	40.6			0.2		66.7
Total EU	55.6	734.5	300.0	68.6	768.4	1980.7	5.0	48.8	2.9	601.9	54.4	19.9	111.1	295.5	5047.3	
Albania											0.5					0.5
Belarus					1.4		3.5							0.3		5.2
Bosnia and Herzegovina							0.2									0.2
Bulgaria							7.6			3.3						10.9
Croatia	9.3					0.1	21.8			16.5						47.7
Czech Republic	2.2						55.6									57.8
Estonia					0.6											0.6
Fed. Rep. of Yugoslavia						0.6	2.0									2.6
Former Yug. Rep. of Macedonia	0.5						0.1									0.6
Hungary	2.2				0.1	0.3	56.2									58.8
Iceland															0.3	0.3
Latvia														0.3		0.3
Lithuania					0.1									0.1		0.2
Malta															0.1	0.1
Moldova																0.0
Norway					2.4		0.8				0.6			39.7	1.6	45.1
Poland	0.2					0.5	6.0							2.2		8.9
Romania					0.1		1.3									1.4
Russia					5.7									0.1		5.8
Slovak Republic							33.6									38.0
Slovenia	12.8					0.2	50.3			9.2				0.6	1.5	74.6
Switzerland	4.3		1.5		2.6	45.2	162.1			0.5	1.9			1.6	1.6	221.3
Turkey	0.2				0.3	1.1	0.3			2.2	1.4					5.5
Ukraine					1.5		0.1									1.6
Total other Europe	36.1	1.5	0.0	14.8	48.0	401.5	0.0	0.0	31.7	4.4	0.0	0.0	44.9	5.1	588.0	
Canada						1.6					1.8			0.1		3.5
USA			9.8		0.2	0.2	1.9				28.4				0.7	41.2
Total North America	0.0	9.8	0.0	0.2	1.8	1.9	0.0	0.0	0.0	30.2	0.0	0.1	0.0	0.7	44.7	
Argentina														0.3		0.3
Brazil							0.1									0.1
Mexico														0.1		0.1
Venezuela						0.9										0.9
Total South America	0.0	0.0	0.0	0.0	0.9	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	1.4
India			63.4			0.3	38.5				92.3			0.9	7.3	202.7
China			64.1				16.3				41.7			7.2	2.2	132.2
Hong Kong, SAR of China			39.9				11.2				21.5				2.4	75.0
Indonesia			215.8		3.3	1.9	155.8			1.0	300.1			1.1	35.8	714.8
Japan					0.1	0.1	0.8							0.3		1.3
Malaysia			11.0				3.8				3.2				0.8	18.8
Philippines			5.3		0.7	0.5	15.0				13.6				0.8	35.9
Korea, Rep. of			58.9			8.1	29.5			0.1	125.6			0.8	39.5	262.5
Thailand			42.3		1.5	0.6	156.0				34.4				0.1	234.9
Viet Nam						0.4										0.4
Total Asia	0.0	500.7	0.0	5.6	12.6	426.9	0.0	0.0	1.1	632.4	0.0	0.0	10.3	88.9	1678.5	
Others	0.1	18.4	5.0	1.3	6.1	24.2	5.0	0.0	5.9	29.8	1.5	33.4	0.9	10.9	142.5	
Grand total	91.8	1264.9	305.0	90.5	837.8	2835.3	10.0	48.8	41.6	1298.7	55.9	53.4	167.6	401.1	7502.4	

Notes: Denmark, Greece and Ireland: figures have been estimated; Australia data covers 07/96 to 06/97 and 07/97 to 06/98 instead of 1997 and 1998.

Appendix 6: Exports of recovered paper by country of destination in 1998 (thousand tons) (Source: CEPI) (cont.)

<i>to</i>	<i>from</i>	Czech Republic	Estonia	Hungary	Latvia	Norway	Romania	Slovakia	Switzerland	Canada	USA	Brazil	Chile	El Salvador	Japan	Malaysia	Australia
Austria		1.0		1.0				1.0	46.4								
Belgium																	
Denmark						24.7											
Finland			0.9														
France						7.5			52.9								
Germany		1.2				1.1			25.9								
Greece						0.1											
Ireland																	
Italy						0.2			79.2	6.0							
Netherlands						0.2			4.0								
Portugal																	
Spain									0.7								
Sweden		1.2				81.7					1123.0						
United Kingdom						0.3			0.1		128.0						
Total EU		3.4	0.9	1.0	0.0	115.8	0.0	1.0	209.2	6.0	1251.0	0.0	0.0	0.0	0.0	0.0	0.0
Albania																	
Belarus			1.0		4.0												
Bosnia and Herzegovina																	
Bulgaria																	
Croatia				2.0													
Czech Republic								10.0									
Estonia																	
Fed. Rep. of Yugoslavia				8.0	3.2												
Former Yug. Rep. of Macedonia																	
Hungary		1.4															
Iceland																	
Latvia																	
Lithuania			2.7														
Malta																	
Moldova							0.3										
Norway																	
Poland																	
Romania				3.0													
Russia			3.5														
Slovak Republic		48.7		4.0													
Slovenia		5.8		3.0													
Switzerland																	
Turkey																	
Ukraine		0.5	4.7	10.0	11.5												
Total other Europe		56.4	11.9	30.0	18.7	0.0	0.3	10.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Canada											2187.0						
USA						2.2				478.0							
Total North America		0.0	0.0	0.0	0.0	2.2	0.0	0.0	0.0	478.0	2187.0	0.0	0.0	0.0	0.0	0.0	0.0
Argentina											1123.0						
Brazil											128.0						
Mexico											1251.0						
Venezuela											128.0						
Total South America		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1251.0	0.0	0.0	0.0	0.0	0.0	0.0
India											261.0						2.0
China										17.0	1000.0						1.8
Hong Kong, SAR of China															32.0		
Indonesia											340.0				16.0		96.2
Japan											228.0				39.0		
Malaysia		0.2															
Philippines										6.0					15.0		
Korea, Rep. of										9.0	965.0				155.0		10.5
Thailand											213.0				96.0	12.0	9.6
Viet Nam																	
Total Asia		0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	32.0	3007.0	0.0	0.0	0.0	353.0	12.0	120.1
Others		0.0	0.0	0.0	0.0	100.6	0.0	0.0	0.1	62.0	335.0	3.0	14.0	1.6	11.0	10.0	19.0
Grand total		60.0	11.9	31.0	18.7	218.6	0.3	11.0	210.0	578.0	7031.0	3.0	14.0	1.6	364.0	22.0	139.1

Notes: Denmark, Greece and Ireland: figures have been estimated; Australia data covers 07/96 to 06/97 and 07/97 to 06/98 instead of 1997 and 1998.

APPENDIX 7: IMPORTS OF RECOVERED PAPER BY COUNTRY OF ORIGIN IN 1997 (thousand tons) (Source: CEPI)

<i>from</i>	to Austria	Belgium	Denmark	Finland	France	Germany	Greece	Ireland	Italy	Netherlands	Portugal	Spain	Sweden	UK	TOTAL EU	
Austria		1.3				36.5			25.3				1.0		0.2	64.3
Belgium	1.9					45.8			3.5	232.2	0.4	5.1	10.4	0.3	299.6	
Denmark	2.2					123.0			3.2				175.0		303.4	
Finland	0.1					20.4				0.9		5.4	13.2	0.8	40.8	
France	0.3	19.8				132.6			134.6	41.7	1.9	458.6		2.5	792.0	
Germany	536.9	94.4		55.6					492.3	699.6	0.3	104.6	130.7	3.9	2118.3	
Greece						0.1			2.7	0.5					3.3	
Ireland									0.1	4.5				36.3	40.9	
Italy	0.9					1.4						0.6			2.9	
Netherlands	9.1	123.8		1.6		549.3			17.0		0.2	7.1	23.9	7.9	739.9	
Portugal												51.5			51.5	
Spain		0.1				1.5			2.6	0.4	0.8				5.4	
Sweden	8.2	0.5		18.5		31.0			25.8	8.0		4.0		11.8	107.8	
United Kingdom	2.4	0.3				43.6			72.6	76.2	0.4	11.0	68.0		274.5	
Total EU	562.0	240.2	67.0	75.7	933.3	985.2	7.5	11.4	779.7	1064.0	4.0	648.9	421.2	63.7	5863.8	
Cyprus									1.3						1.3	
Czech Republic	0.7						0.9						1.3		2.9	
Estonia				3.1											3.1	
Hungary	1.2						0.1		0.4						1.7	
Iceland													5.3		5.3	
Lithuania						0.1				0.1					0.2	
Malta									0.2						0.2	
Norway				0.9		0.5				0.2		0.2	129.1	0.1	131.0	
Poland						2.4							0.7		3.1	
Russian Federation		0.1		1.3		0.1			0.3	0.8				1.0	3.6	
Slovak Republic	2.0														2.0	
Slovenia									0.1						0.1	
Switzerland	44.9				58.6	24.5			50.2	0.2		1.3			179.7	
Ukraine										0.4					0.4	
Total Other Europe	48.8	0.1	0.0	5.3	58.6	28.6	0.0	0.0	52.5	1.7	0.0	1.5	136.4	1.1	334.6	
Canada						0.2			16.8	1.6				0.2	21.5	
USA	3.0			2.3	5.2	2.1			67.7	51.4	10.6	57.5	0.2	9.3	209.3	
Total North America	3.0	0.0	0.0	2.3	5.2	2.3	0.0	0.0	84.5	53.0	10.6	60.2	0.2	9.5	230.8	
Argentina															0.0	
Brazil												0.2		0.1	0.3	
Mexico															0.0	
Total South America	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.1	0.3	
Hong Kong, SAR of China														0.2	0.2	
Japan															0.0	
Philippines															0.0	
Total Asia	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	
Others	0.0	0.0	18.0	0.0	0.7	5.1	7.5	0.0	8.7	1.0	0.0	5.6	0.0	0.2	46.8	
Grand Total	613.8	240.3	85.0	83.3	997.8	1021.2	15.0	11.4	925.4	1119.7	14.6	716.4	557.8	74.8	6476.5	

Notes: Denmark, Greece and Ireland: figures have been estimated; Australia data covers 07/96 to 06/97 and 07/97 to 06/98 instead of 1997 and 1998.

Appendix 7: Imports of recovered paper by country of origin in 1997 (thousand tons) (Source: CEPI) (cont.)

	to Czech Rep.	Estonia	Hungary	Latvia	Norway	Romania	Slovakia	Switzerland	Canada	USA	Brazil	Chile	El Salvador	Mexico	Morocco	Japan	Korea, Rep of	Malaysia	Pakistan	Thailand	Australia	
<i>From</i>																						
Austria			2.0																			
Belgium																	2.0				11.0	
Denmark																						
Finland																						
France																1.2						
Germany			57.0			6.8	30.0									1.0	17.0	10.0			99.0	
Greece																						
Ireland																						
Italy																						
Netherlands																	37.0				69.0	
Portugal																						
Spain																20.9						
Sweden									9.0							0.2						
United Kingdom																2.7	11.0				3.0	
Total EU	2.3	0.0	59.0	0.0	40.5	6.8	30.0	242.8	9.0	0.0	0.0	0.0	0.0	0.0	0.0	26.0	0.0	67.0	10.0	0.0	182.0	0.0
Cyprus																						
Czech Republic			1.0					41.0														
Estonia																						
Hungary						2.5	1.0															
Iceland																0.2						
Lithuania																						
Malta																						
Norway																	3.0					
Poland																						
Russian Federation																						
Slovak Republic																						
Slovenia																						
Switzerland																						
Ukraine																						
Total Other Europe	0.0	0.0	1.0	0.0	0.0	2.5	42.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	3.0	0.0	0.0	0.0	0.0
Canada										598.0				0.0	0.2		4.0	19.0			9.0	
USA									2083.0		2.0		3.6	1352.9		347.0	1299.0	100.0			326.0	2.9
Total North America	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2083.0	598.0	2.0	0.0	3.6	1353.1	0.0	351.0	1318.0	100.0	0.0	0.0	335.0	2.9
Argentina												1.0										
Brazil																						
Mexico										18.0			//				7.0					
Total South America	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	18.0	1.0	0.0	0.0	0.0	0.0	0.0	7.0	0.0	0.0	0.0	0.0	0.0
Hong Kong, SAR of China																					5.0	
Japan																	47.0					
Philippines																						8.0
Total Asia	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	47.0	0.0	0.0	0.0	13.0	0.0
Others	8.5	0.0	0.0	0.0	1.2	0.0	0.0	0.1	0.0	12.0	19.0	4.2	8.9	1.0	0.0	3.0	17.0	20.0	28.0	91.0	44.2	
Grand Total	10.8	1.0	60.0	0.0	41.7	9.3	72.0	242.9	2092.0	628.0	22.0	4.2	12.5	1354.1	26.2	361.0	1452.0	130.0	28.0	621.0	47.1	

Notes: Denmark, Greece and Ireland: figures have been estimated; Australia data covers 07/96 to 06/97 and 07/97 to 06/98 instead of 1997 and 1998.

APPENDIX 8: IMPORTS OF RECOVERED PAPER BY COUNTRY OF ORIGIN IN 1998 (thousand tons) (Source: CEPI)

	to Austria	Belgium	Denmark	Finland	France	Germany	Greece	Ireland	Italy	Netherlan ds	Portugal	Spain	Sweden	UK	Total EU
<i>from</i>															
Austria		1.1	0.5		0.1	32.6			20.5	221.2		0.2	0.3		276.5
Belgium		3.0			327.1	75.4			5.8	1.7	0.2	5.0	10.6		428.8
Denmark		0.1			0.2	116.8			10.4	2.2			160.1		289.8
Finland		1.0				39.4			0.1	71.3			17.1	3.5	132.4
France	591.4	28.1			0.2	106.1			115.6	634.5	1.8	567.9		0.9	2046.5
Germany		135.1		28.3	485.7				468.9		4.3	105.5	113.0	2.0	1342.8
Greece									2.1	3.1					5.2
Ireland							0.1					0.6		39.0	39.7
Italy	0.4	0.2			3.2	1.9						0.1	11.3		17.1
Netherlands	13.7	243.8		1.0	178.1	532.5			21.5			5.4	32.7	2.5	1031.2
Portugal					0.4	0.2						71.3			71.9
Spain					3.1	5.9			11.1	0.3	1.3				21.7
Sweden	8.7	0.6		23.8	1.0	27.0			18.5	1.8		4.5		1.5	87.4
United Kingdom	3.0	14.3			93.8	37.6			44.9	72.9		8.7	72.7		347.9
Total EU	622.4	422.6	70.0	53.1	1092.9	975.5	25.0	12.1	719.4	1009.0	7.6	769.2	417.8	49.4	6246.0
Croatia									0.1						0.1
Cyprus									1.1						1.1
Czech Republic	0.9						1.3		0.1				1.2		3.5
Estonia				0.9											0.9
Hungary	1.0						0.2								1.2
Iceland										0.6			5.3		5.9
Liechtenstein							0.2								0.2
Malta									0.2						0.2
Norway	0.2			0.5		0.9			0.3	0.1		0.1	124.0		126.1
Poland	0.1					2.7							0.8		3.6
Romania	0.1														0.1
Russia				1.4		0.2								1.0	2.6
Slovak Republic	1.3														1.3
Slovenia	0.1					0.1			0.1						0.3
Switzerland	35.0	0.2			53.7	25.2			45.1			0.6		0.1	159.9
Ukraine				0.3						0.4					0.7
Total Other Europe	38.7	0.2	0.0	3.1	53.7	30.8	0.0	0.0	47.0	1.1	0.0	0.7	131.3	1.1	307.7
Canada		0.4			2.6	0.6			14.0	1.2		1.4		0.7	20.9
USA	0.1	4.2		2.3	5.0	0.5			62.7	59.0	4.9	37.8	0.1	6.0	182.6
Total North America	0.1	4.6	0.0	2.3	7.6	1.1	0.0	0.0	76.7	60.2	4.9	39.2	0.1	6.7	203.5
Argentina															0.0
Brazil											0.2				0.2
Chile												0.2			0.2
Mexico															0.0
Total South America	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.0	0.0	0.4
Hong Kong, SAR of China															0.0
Japan															0.0
Philippines															0.0
Korea, Rep. of															0.0
Total Asia	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Others	0.0	0.0	15.0	0.0	0.8	0.0	25.0	0.0	10.6	0.0	0.0	5.9	0.0	0.1	57.4
Grand Total	661.2	427.4	85.0	58.5	1155.0	1007.4	50.0	12.1	853.7	1070.3	12.7	815.2	549.2	57.3	6815.0

Notes: Denmark, Greece and Ireland: figures have been estimated; Australia data covers 07/96 to 06/97 and 07/97 to 06/98 instead of 1997 and 1998.

Appendix 8: Imports of recovered paper by country of origin in 1998 (thousand tons) (Source: CEPI) (cont.)

	to Czech Rep.	Estonia	Hungary	Latvia	Norway	Romania	Slovakia	Switzerland	Canada	USA	Brazil	Chile	El Salvador	Mexico	Morocco	Japan	Korea, Rep. of	Malaysia	Pakistan	Thailand	Australia	
<i>from</i>																						
Austria	1.3		2.0				4.0	8.5														
Belgium								1.1									24.0				40.0	
Denmark						3.7		0.6														
Finland	0.1					2.3		1.3														
France								39.8							0.2		3.0					
Germany	41.7		58.0		0.9	12.3	35.0	169.6							1.8		40.0	5.0			158.0	
Greece																						
Ireland																						
Italy								0.7														
Netherlands						0.5		4.4							0.1		164.0				56.0	
Portugal																						
Spain															27.1							
Sweden						41.2		1.6									1.0					
United Kingdom						2.2		1.9							1.4		62.0				1.0	
Total EU	43.1	0.0	60.0	0.0	50.8	12.3	39.0	229.5	0.0	0.0	0.0	0.0	0.0	0.0	30.6	0.0	294.0	5.0	0.0	255.0	0.0	
Croatia																						
Cyprus																						
Czech Republic			2.0					52.0														
Estonia																						
Hungary						3.9	3.0															
Iceland															2.5							
Liechtenstein																						
Malta																						
Norway								0.1									21.0					
Poland	0.1																					
Romania																						
Russia																						
Slovak Republic	0.9																					
Slovenia																						
Switzerland	0.2																					
Ukraine																						
Total Other Europe	1.2	0.0	2.0	0.0	0.0	3.9	55.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	2.5	0.0	21.0	0.0	0.0	0.0	0.0	
Canada											447.0			0.5		2.0	23.0				0.0	
USA					0.1				2199.0			1.0		7.1	1260.5	2.0	282.0	1421.0	120.0		301.0	7.5
Total North America	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	2199.0	447.0	1.0	0.0	7.1	1261.0	2.0	284.0	1444.0	120.0	0.0	301.0	7.5	
Argentina											2.0											
Brazil																						
Chile																						
Mexico										15.0						6.0						
Total South America	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.0	2.0	0.0	0.0	0.0	0.0	6.0	0.0	0.0	0.0	0.0	0.0	
Hong Kong, SAR of China																					1.0	
Japan																	165.0				86.0	
Philippines																					1.0	
Korea, Rep. of											2.0											
Total Asia	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	166.0	0.0	0.0	88.0	0.0	
Others	0.0	0.3	0.0	0.0	1.7	0.0	0.0	0.0	6.0	2.0	17.0	1.5	9.8	11.4	0.0	4.0	38.0	30.0	33.0	81.0	35.8	
Grand Total	44.3	0.3	62.0	0.0	52.6	16.2	94.0	229.6	2205.0	464.0	22.0	1.5	16.9	1272.4	35.1	294.0	1963.0	155.0	33.0	725.0	43.3	

Notes: Denmark, Greece and Ireland: figures have been estimated; Australia data covers 07/96 to 06/97 and 07/97 to 06/98 instead of 1997 and 1998.