

THAILAND

Thai Pulp and Paper Industry in 2006

In 2006, total short fiber pulp production equalled 1.1 million tons with a total utilization rate of 99 percent. Total pulp consumption was 1.3 million tons, an increase of 6 percent from the previous year. It was estimated that total pulp consumption will grow to 1.7 million tons by the year 2011. As Thailand is a net importer of long fiber pulp, total pulp imports equalled 409 000 tons, whereas total pulp exports equalled 211 000 tons.

The total capacity of the paper and board industry in 2006 was 5.2 million tons. The production of kraft paper held the major portion of the industry with a total capacity of 62 percent, followed by printing & writing paper, paperboard, tissue paper and newsprint.

Total industry production increased by 14 percent with total production equalling 4.3 million tons. The industry utilization rate in 2006 was 84 percent the same as in 2005.

In 2006, the consumption of paper and board was 3.5 million tons, an improvement of 12 percent. In large part, the increase came from higher consumption volume of paperboard, printing & writing paper and tissue paper. Paper consumption per capita in 2006 was 56 kg. and the paper and board consumption rate is expected to reach 77 kg. by 2011.

The total import volume of paper and board in 2006 was 639 000 tons, a 3 percent drop from the previous year, which occurred mainly from a 25 percent drop in newsprint paper imports and a 13 percent drop in printing & writing paper imports. The amount of imported paperboard, however, increased by 255 percent in 2006.

The export of paper and board grew by 14 percent from the previous year. The total export volume was 1 071 000 tons. Kraft paper made up 50 percent of the industry exports; it was followed by printing & writing paper and tissue paper, respectively. The industry's main export destinations were South Korea, Taiwan, China, and Southeast Asian countries.

The Thai economy in 2007 is expected to grow by 4.0-4.5 percent. This expected growth has been mainly driven by the countries export of goods and services. In addition, the global trend of environmental awareness has been forecasted to improve the consumption rate of the industry, which has been almost 100 percent recyclable. Therefore, it is estimated that the demand for Thai paper and board will grow by 5 percent from an estimated 3.7 million tons in 2007 to 4.8 million tons by the year 2011.

The industry recovery rate for recovered paper in 2006 was 49 percent, up 2 percent from 2005. Total consumption was 2.8 million tons; it was provided for by a domestic collection of 1.7 million tons and importations. Recovered paper consumption is estimated to grow by 5 percent in 2007, parallel with the growth of kraft paper consumption.

Thai Economy and the Industry

The Thai economy in 2006 grew by 5.0 percent, which was higher than the 4.5 percent growth it experienced the previous year. This was supported by remarkable growth in the net export of goods and services, which helped to offset a slow down in private investments and consumption. The export of goods and services grew by 17 percent, with major contributors being electronics, electrical appliances, vehicles and parts, construction materials, and rubber products. Imports grew by 7 percent, mainly from the import of capital goods and raw materials, which improved the nation's balance of trade and balance of payments.

Thailand Key Economic Indicators	2007 Forecast	2006	2005	2004	2003
GDP Growth (1988 Price %)	4.0- 4.5	5.0	4.5	6.3	7.1
GDP Current Prices (Billion Baht)	8,399	7,813	7,088	6,490	5,917
Investment (1988 Price %)	2.1	4	11.1	13.2	12.1
o Private	1.5	3.9	10.9	16.2	17.7
o Public	4	4.5	11.3	5	-0.6
Consumption (1998 Price %)	2.8	3.2	5.5	6.1	5.9
o Private	2.2	3.1	4.3	6.2	6.5
o Public	6.3	3.4	13.7	5.6	2.5
Export Value (Billion US\$)	144.1	128.2	109.2	94.9	78.1
• Growth Rate (%)	12.4	17.4	15	21.6	18.2
Import Value (Billion US\$)	136.4	126	117.7	93.5	74.3
• Growth Rate (%)	8.3	7	25.9	25.7	17.4
Balance of Trade (Billion US\$)	7.7	2.2	-8.5	1.5	3.8
Balance of Payment (Billion US\$)	8.5	3.2	-7.9	2.8	4.8
Inflation (%)	2.0-2.5	4.7	4.5	2.7	1.8
Population (Million)	62.83	62.83	62.42	61.97	63.08

Sources: National Economic and Social Development Board (NESDB) and Bank of Thailand (BOT)

The Thai economy's trade balance in 2006 enjoyed a surplus of 2.2 billion US\$, compared to a deficit of 8.5 billion US\$ in 2005. This led to a current account registered surplus of 3.2 billion US\$ in 2006, a marked improvement over the 7.9 billion US\$ deficit posted in 2005.

The economy's trade surplus was partially created by a remarkable increase in the export of electronic products such as computers, integrated circuits, and air conditioners. This upwards trade balance helped to boost the usage of paper containers--especially the use of kraft paper for outer containers and paperboard for inner boxes and the industry's annual consumption rate.

2006 Country Statement and Trend of Thai Pulp and Paper Industry Pulp Industry

• Capacity

In 2006 total pulp capacity was 1.1 million tons, the same as in 2005. Detail information of the total capacities of Thailand's six pulp manufacturers are presented in the table below.

Manufacturer	Capacity (Thousand Tons)	Grade
1. Advance Agro	515	<i>Eucalyptus</i>
2. Phoenix Pulp & Paper	235	<i>Eucalyptus, Bamboo, Leucaena</i>
3. Panjapol Pulp Industry	110	<i>Eucalyptus</i>
4. SCG Paper*	100	<i>Eucalyptus, CTMP</i>
5. Siam Cellulose	86	<i>Eucalyptus</i>
6. Environment Pulp and Paper**	100	<i>Bagasse</i>
Total	1,146	

*Former The Siam Pulp and Paper

**Started up in October 2004

- **Production**

In 2006, total pulp production was 1.1 million tons, a 6 percent growth from the previous year. Meanwhile, the utilization rate rose to 99 percent, up 6 percent from the previous year, because the industry enjoyed unusually high prices for short fiber pulp. These higher prices were as a result of a growing preference for short fiber pulp (over the long fiber grade) in order to reduce costs. Thus, there was an increased demand for short fiber grades.

- **Consumption**

Domestic pulp consumption rose by 6 percent from the previous year to 1.3 million tons. Since local manufacturers only produced short fiber grades of pulp, 1 129 000 tons of short fiber grade pulp were produced within the country, and only long fiber grades of pulp were imported. The slow growth of pulp demand, however, was the result of the trend to substitute virgin pulp with recycled pulp that enabled manufacturers to be more cost efficient and environmentally friendly.

- **Pulp Import – Export**

Total imported pulp rose by 8 percent in 2006 to 409 000 tons, of which 372 000 tons were long fiber pulp and 37 000 tons were short fiber pulp. In 2006 imported long fiber pulp increased by 9 percent from the prior year due to unusually lower prices that resulted from the capacity expansion of pulp producers in Europe. The United States, Canada, Sweden, Australia, and South Africa were the major pulp exporters to Thailand.

In 2006, Thailand exported 211 000 tons of short fiber pulp, an amount which grew by 13 percent from the previous year. Thailand's major pulp export markets were China, Indonesia, the Philippines and Singapore.

- **Pulp Demand and Capacity Trends**

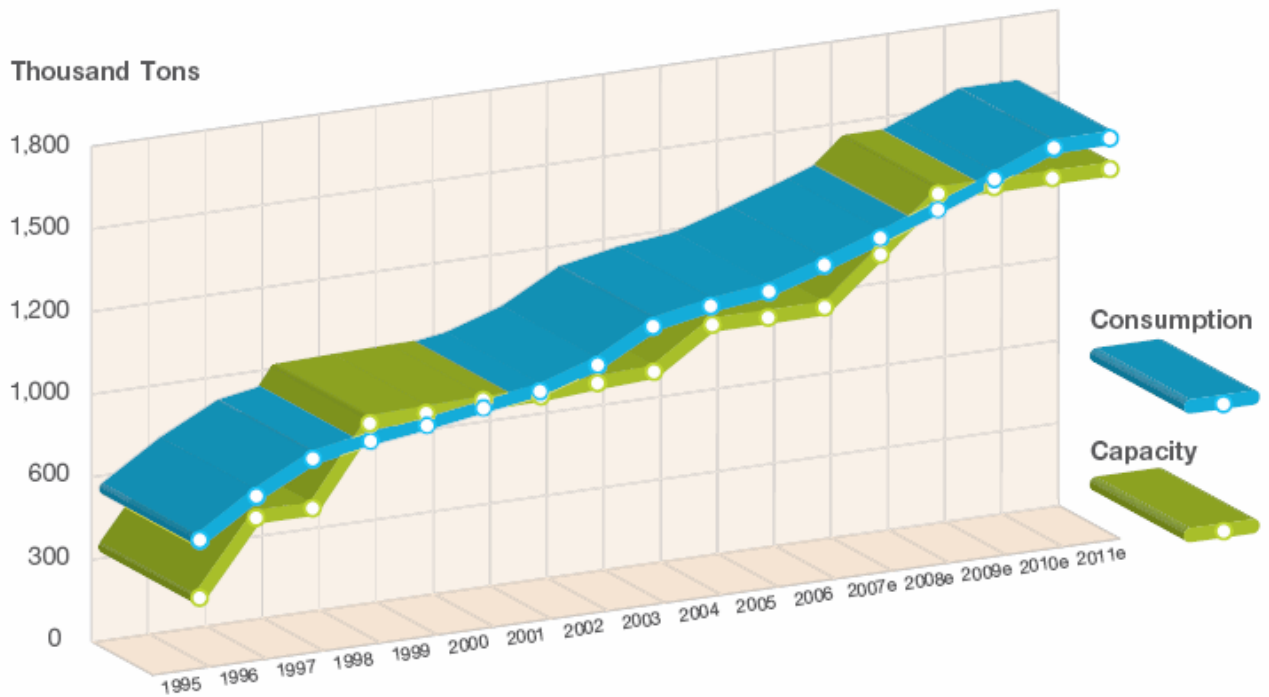
Domestic pulp consumption is estimated to grow by 6 percent per year in line with the growth of the paper industry. This growth is estimated to result in the demand for pulp reaching a level of 1.4 million tons in 2007.

Year	2004	2005	2006	Estimated				
				2007	2008	2009	2010	2011
Consumption								
• Short Fiber	862	914	895	949	1,006	1,066	1,130	1,198
• Long Fiber	363	338	431	456	483	512	542	474
Total	1,225	1,252	1,326	1,405	1,489	1,578	1,672	1,672
Capacity								
• Short Fiber		1,143	1,146	1,346	1,546	1,546	1,546	1,546
• Long Fiber	1,143	-	-	-	-	-	-	-
Total	1,143	1,143	1,146	1,346	1,546	1,546	1,546	1,546
Production	-							
• Short Fiber	1,143	1,061	1,129	1,269	1,489	1,546	1,546	1,546
• Long Fiber		-	-	-	-	-	-	-
Total	1,000	1,061	1,129	1,269	1,489	1,546	1,546	1,546
Surplus (Shortage)	-							
• Short Fiber	138	148	234	320	483	480	416	348
• Long Fiber	(363)	(338)	(431)	(456)	(483)	(512)	(542)	(474)

Unit: Thousand Tons

Source: *The Thai Pulp and Paper Industries Association (TPPIA)*

Pulp Industry



Year	Consumption	Import	Export	Production	Capacity
1995	566	350	98	316	331
1996	716	345	131	502	626
1997	834	333	103	604	626
1998	875	251	216	843	943
1999	905	364	230	900	950
2000	942	359	254	958	956
2001	977	323	347	951	958
2002	1,053	392	191	953	974
2003	1,180	397	270	1,000	987
2004	1,225	245	167	1,000	1,143
2005	1,252	378	187	1,061	1,143
2006	1,326	409	211	1,129	1,146
2007 (Est.)	1,405			1,269	1,346
2008 (Est.)	1,489			1,489	1,546
2009 (Est.)	1,578			1,546	1,546
2010 (Est.)	1,672			1,546	1,546
2011 (Est.)	1,772			1,546	1,546

Source: The Thai Pulp and Paper Industries Association (TPPIA)

Remarks: Recovery Rate = Recovery Paper Collected / Paper and Board Consumption

Recovered Paper

- **Local recovered paper collection**

In 2006, the total volume of recovered paper in Thailand was 1.7 million tons. This rise of 18 percent from the previous year was due to better waste management and environmental awareness. The industry recovery rate was 49 percent, up 2 percent from the year before.

- **Consumption**

Recovered paper consumption was 2.8 million tons, which was an increase of 8 percent from the year 2005. According to the industry, awareness of the environment, in accordance with the rising cost of energy and the capacity expansion of local paper manufacturers, motivated the use of recycled pulp and led to the trend toward higher recovered paper consumption.

- **Recovered Paper Import - Export**

The importation of recovered paper in 2006 was 1 050 000 tons, an 11 percent rise from the previous year. Old Corrugated Carton (OCC) accounted for the largest portion of imported grade at 69 percent of total imports, while mixed waste and old newspapers accounted for 20 percent and 10 percent, respectively. Main export countries of recovered paper to Thailand were the United States, Japan and Singapore.

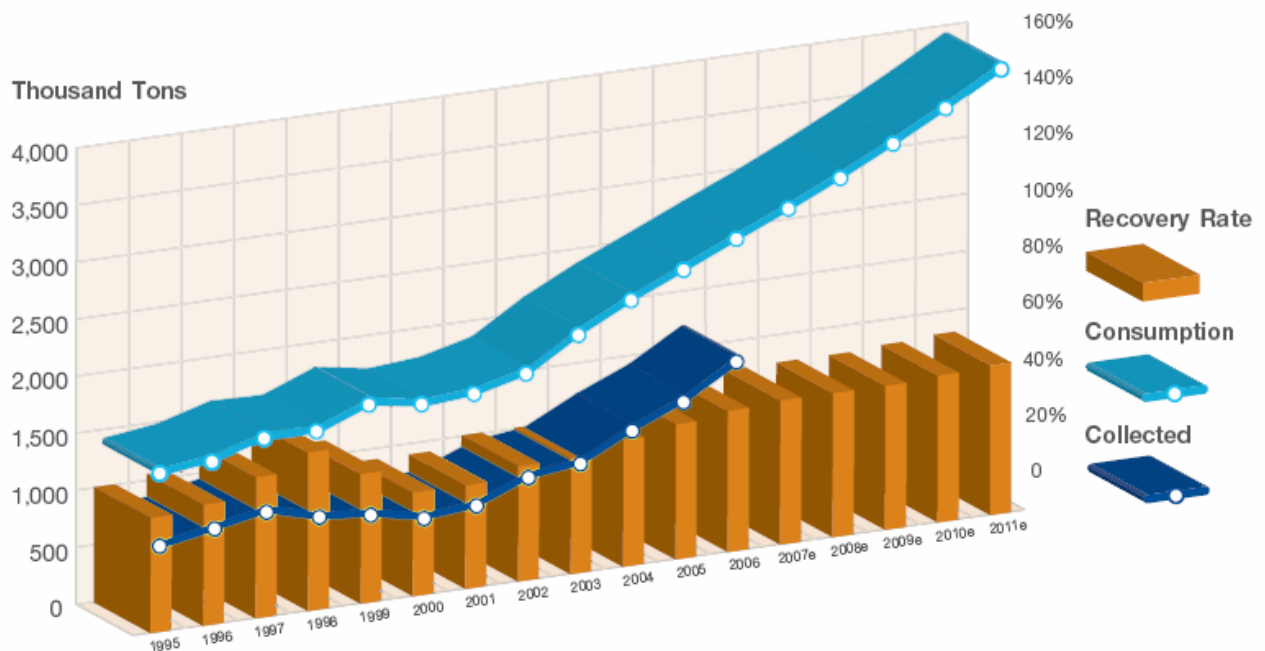
- **Recovered Paper Demand and Collection Trends**

Recovered paper consumption is anticipated to increase by 6 percent per year along with the projected growth of the paper industry. It is estimated that the country's recovery rate will improve significantly in the near future. The global trend of environmental awareness is motivating the industry to utilize more recycled materials. This will inevitably affect Thai manufacturers, especially with regard to international trade as oversea customers will increasingly demand environmentally-friendly products and certifications. This increasing trend will definitely enhance the industry's usage of recycled materials.

In addition, the Thailand Institute of Packaging Management for Sustainable Environment (TIPMSE), which received its initial funding from packaging material manufacturers in Thailand, was established to reduce used packaging materials from municipal garbage. The TIPMSE's main purpose is to trim down used packaging materials in municipal waste from 4.3 million tons per year to 2.7 million tons. This would produce a 30 percent decrease in the amount of used packaging materials in public waste to a level of 19 percent by the year 2010. Several pilot projects at local universities and communities have been implemented to turn waste into money. They have been shown to be successful and are in the process of being implemented broadly in support of the TIPMSE's mission.

These types of initiatives coupled with the growing global concern for the environment will boost up local collection rates for recycling materials such as paper, plastics, glass and metals and thereby enable a continual rise in the industry's recovery rate.

Recovered Paper Industry



Year	Consumption	Import	Export	Collection	Recovery Rate
1995	1,458	607	0	851	40%
1996	1,515	582	0	933	42%
1997	1,642	622	0	1,021	49%
1998	1,630	725	0	905	55%
1999	1,802	935	2	868	45%
2000	1,728	952	0	776	36%
2001	1,765	947	1	819	36%
2002	1,875	879	3	998	40%
2003	2,149	1,099	3	1,053	40%
2004	2,370	941	6	1,275	44%
2005	2,562	946	15	1,461	47%
2006	2,758	1,050	14	1,721	49%
2007 (Est.)	2,950				50%
2008 (Est.)	3,156				50%
2009 (Est.)	3,376				50%
2010 (Est.)	3,612				51%
2011 (Est.)	3,864				52%

Source: The Thai Pulp and Paper Industries Association (TPPIA)

Remarks: Recovery Rate = Recovery Paper Collected / Paper and Board Consumption

Paper and Board Industry

- **Capacity**

The total capacity of the paper and board industry was approximately 5.2 million tons, improve 15 percent from the year 2005. Additional capacity mainly came from a kraft paper and tissue paper expansion project and a de-bottlenecking program aimed at easing the production of printing & writing paper.

Kraft paper continued to hold the largest portion of the industry with total capacity of 62 percent, followed by printing & writing paper at 25 percent, paperboard at 7 percent and both newsprint paper and tissue paper at 3 percent respectively.

- **Production**

Paper production in 2006 soared to 4.3 million tons, a 20 percent increase from the 2005 total of 3.8 million tons. This mainly resulted from the high national growth of exports.

Kraft paper production volume totalled 2.6 million tons, a rise of 16 percent from the year before. Its utilization rate of 80 percent was 5 percent lower than that of the previous year. Printing & writing paper production equalled 1.2 million tons with a utilization rate of 96 percent, up 12 percent from 2005. The utilization rate of newsprint paper was 96 percent, and the rate for tissue paper was 87 percent. At 96 percent, the utilization rate for newsprint dropped 1 percent from the previous year. In 2006, the utilization rate of the paper and board industry was 84 percent, the same as posted in 2005.

GRADE	Utilization Rate
Kraft Paper	80%
Printing & Writing Paper	96%
Paperboard	69%
Newsprint Paper	96%
Tissue Paper	87%
Total Paper and Board	84%

- **Consumption**

In 2006, total paper and board consumption was 3.5 million tons, an increase of 12 percent from 2005. In large part the increase resulted from the higher consumption of paperboard, printing & writing paper and tissue paper. Paper and board consumption per capita was 56 kg., compared to 50 kg. in 2005. Growth is projected to continue and per capita consumption has been estimated to reach 77 kg. in 2011.

Unit : kg	2003	2004	2005	2006
Per capita Consumption	42	47	50	56

The kraft paper consumption of 2.0 million tons grew by 12 percent from the previous year; the marked growth was primarily driven by export markets in electronic products (namely, computers, integrated circuits as well as motor vehicles and parts).

Printing & writing paper consumption was 0.9 million tons, up 20 percent from the prior year. The demand growth of paperboard, mainly used for inner packaging for consumer and food related products, grew by 21 percent and 18 percent increase recorded for tissue paper. Newsprint paper demand dropped by 17 percent to 0.23 million tons compared to 0.28 million tons in 2005.

Grade	Paper and Board Consumption (Thousand Tons)				
	2004	2005	2006	%	Per capita* (kg.)
Kraft Paper	1,706	1,784	1,993	57	32
Printing & Writing Paper	658	744	893	25	14
Paperboard	220	261	315	9	5
Newsprint Paper	266	276	229	7	4
Tissue Paper	54	70	83	2	1
Total	2,904	3,135	3,513	100	56

Remarks: * Population in 2006: 62.8 million

- **Import - Export of Paper & Board**

Import

Paper and board imports in 2006 dropped by 3 percent from the previous year mainly due to a slowing trend in newsprint paper imports. The importation of newsprint paper dropped by 25 percent to 0.1 million tons from the prior year. Printing & writing paper imports dropped by 13 percent, mainly because commodity grade and kraft paper imports dropped by 8 percent from the previous year. On the other hand, paperboard imports soared by 255 percent, while tissue paper imports increased by 15 percent.

Export

In 2006, total paper and board exports increased by 14 percent from 2005. The major portion of the total came from kraft paper exports, which rose by 37 percent. Meanwhile, the other exported grades produced the following increases: newsprint exports went up by 28 percent, tissue paper by 25 percent and paperboard by 17 percent. Printing & writing paper exports dropped by 7 percent to 0.4 million tons. The main countries that receive Thai paper and board exports are Hong Kong, Singapore, China, and Southeast Asian countries.

- **Paper and Board Demand and Capacity Trends:**

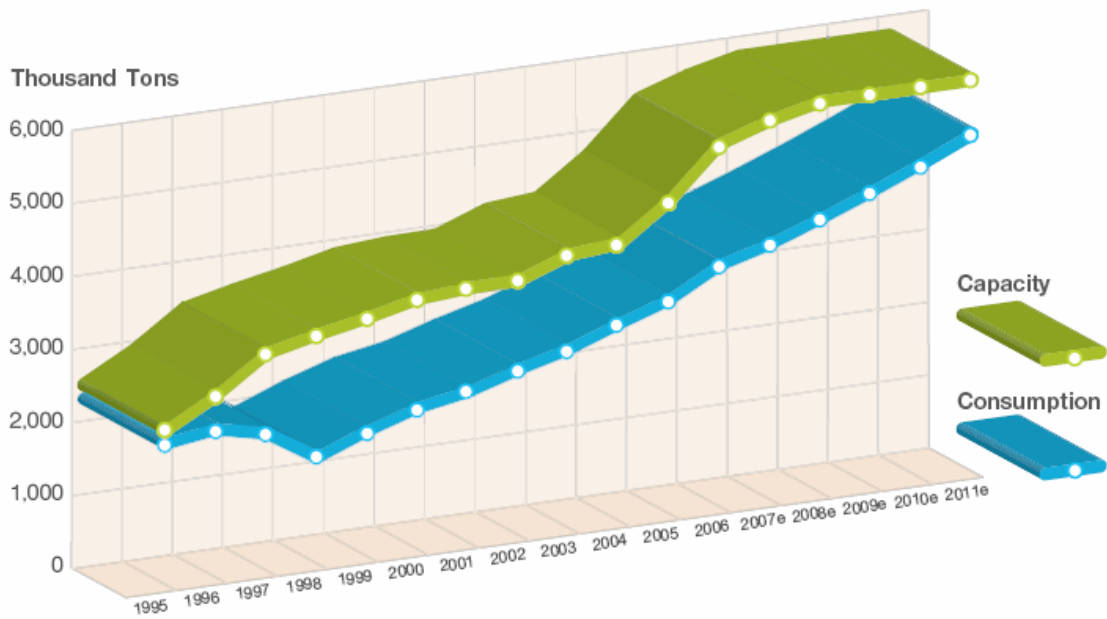
The Thai economy in 2007 is expected to grow by 4.0-4.5 percent especially surges in electronics and auto exports. The demand for paper and board is expected to grow by 5 percent and estimated to reach 3.7 million tons in 2007.

Grade		2004	2005	2006	Estimated				
					2007	2008	2009	2010	2011
Kraft Paper	Consumption	1,706	1,784	1,993	2,092	2,244	2,407	2,582	2,770
	Capacity	2,400	2,673	3,283	3,411	3,411	3,411	3,411	3,411
Surplus (Shortage)		694	889	1,290	1,319	1,167	1,004	829	641
Printing & Writing Paper	Consumption	657	744	893	964	1,041	1,124	1,213	1,310
	Capacity	1,083	1,264	1,271	1,271	1,431	1,431	1,431	1,431
Surplus (Shortage)		425	520	378	307	390	307	218	121
Paperboard	Consumption	220	261	315	324	333	342	352	362
	Capacity	300	300	348	448	448	448	448	448
Surplus (Shortage)		80	39	33	124	115	106	96	86
Newsprint Paper	Consumption	266	276	229	240	252	264	277	290
	Capacity	135	135	135	135	135	135	135	135
Surplus (Shortage)		131	141	94	105	117	129	142	155
Tissue Paper	Consumption	54	70	83	84	85	86	87	88
	Capacity	91	129	136	136	136	136	136	136
Surplus (Shortage)		37	59	53	52	51	50	49	48
Total Paper and Board	Consumption	2,904	3,134	3,513	3,704	3,955	4,223	4,511	4,820
	Capacity	4,009	4,501	5,173	5,401	5,561	5,561	5,561	5,561
Surplus (Shortage)		1,105	1,367	1,660	1,697	1,606	1,338	1,050	741
Population	(Million)	61.9	62.4	62.8	62.8	62.8	62.8	62.8	62.8
Per capita Consumption	(kg./head)	47	50	56	59	63	67	72	77

Source: The Thai Pulp and Paper Industries Association (TPPIA)

Unit: Thousand Tons

Total Paper and Board Industry



Year	Consumption	Import	Export	Production	Capacity
1995	2,131	519	240	1,930	2,325
1996	2,230	469	204	1,994	2,700
1997	2,077	379	513	2,274	3,177
1998	1,651	209	908	2,340	3,336
1999	1,919	346	960	2,581	3,472
2000	2,139	420	772	2,605	3,633
2001	2,261	393	767	2,692	3,684
2002	2,471	462	683	2,814	3,695
2003	2,651	514	748	3,261	3,951
2004	2,904	557	796	3,607	4,009
2005	3,134	657	942	3,795	4,501
2006	3,513	639	1,071	4,325	5,173
2007 (Est.)	3,704				5,401
2008 (Est.)	3,955				5,561
2009 (Est.)	4,223				5,561
2010 (Est.)	4,511				5,561
2011 (Est.)	4,820				5,561

Source: The Thai Pulp and Paper Industries Association (TPPIA)