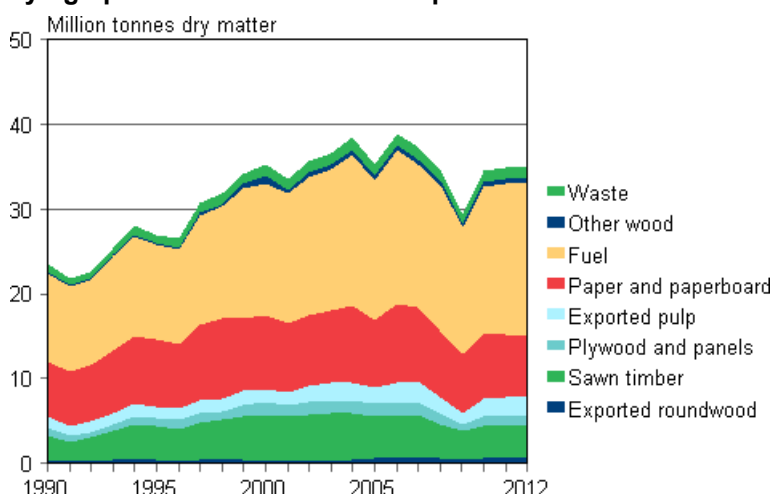


Forest accounts 2012

One-half of wood material used in Finland is burned

Fifty per cent of the total volume of wood material used in Finland in 2012 was burned. Twenty per cent of the wood material was tied up in paper and board, 11 per cent in sawn timber, 3 per cent in wood boards and 7 per cent in exported pulp. These data derive from the use and mass balances in the Forest accounts compiled by Statistics Finland.

Tying up of wood material in end products in 1990-2012



The large proportion of fuel use is mainly due to the combustion of the forest industry's wood wastes, such as bark and spent liquor. The share of burning has grown due to increased use of forest chippings in energy production.

The volumes of used wood material have been calculated as dry matter. For example, the average dry matter content of fresh raw timber is 43 per cent. The forest industry's spent liquors contain approximately 70 per cent and board an average of 65 per cent of dry wood matter. In addition to wood matter, paper and board also contain diverse coating and filler substances.

Forest accounts are compiled from statistics produced by the Finnish Forest Research Institute, Statistics Finland, the Finnish Forest Industries Federation, and the National Board of Customs on the supply and use of wood for the period between 1990 and 2012.

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Appendix table 1. Use balance 2012

	Round wood	Fuel wood	Forest chips	Residues from ind.	Sawn wood	Wood-based panels	Mechan. pulp	Chemic. pulp	Paper and board	Waste liquors	Recycl. paper
	1 000 cubic metres						1 000 tonnes				
BASIC SUPPLY											
Fellings	51 026	6 174	8 292								
Import	6 168	95		3 781	460	395	6	492	459		50
Production and other supply				16 810	9 440	1 200	3 409	6 826	10 694	12 370	704
Export	750	88		487	6 451	929	228	2 483	9 932		160
TOTAL SUPPLY	56 444	6 181	8 292	20 104	3 449	666	3 187	4 835	1 221	12 370	594
FOREST INDUSTRY											
Sawing and planing											
as raw material	21 197										
production				11 330	9 440						
Wood-based panels											
as raw material	2 630			167							
production				2 140		1 200					
Mec. pulp prod.											
as raw material	6 742			1 714							
production				480			3 409				
Chem. pulp prod.											
as raw material	28 028			8 194							
production				2 860				6 826		12 370	
Paper, board prod.											
as raw material							3 187	4 835			567
production									10 694		
TOTAL USE AS RAW MATERIAL IN FOREST INDUSTRY	58 597			10 075			3 187	4 835			567
OTHER USE											
Power plants as fuel		95	7 621	9 340						11 758	
Small-size dwelling as fuel		5 363	671								
Other industries and changes in inventories, as raw material	-2 153	723		689	3 450	665			1 221	612	
OTHER USE TOTAL	-2 153	6 181	8 292	10 029	3 450	665			1 221	12 370	27

Appendix table 2. Mass balance 2006–2012

	2006		2007		2008		2009		2010		2011		2012	
TIMBER AND PRODUCTS TOTAL														
million dry-matter tons of wood														
	in	out	in	out	in	out	in	out	in	out	in	out	in	out
Roundwood	30,4		31,3		28,9		19,6		25,5		24,9		24,3	
Fuel wood	2,3		2,3		2,9		2,9		2,5		2,6		2,7	
Forest chips	1,5		1,3		1,9		2,6		3,0		3,2		3,6	
Net import of residues	1,0		1,1		1,6		1,3		1,6		1,4		1,4	
Recycled paper	0,4		0,5		0,5		0,4		0,4		0,4		0,4	
TOTAL	35,6		36,4		35,7		26,8		33,0		32,5		32,4	
Forest industry products		18,2		17,7		14,9		12,4		14,6		14,6		14,4
Sawn goods		5,0		5,1		4,1		3,3		3,9		4,0		3,9
Veneer and boards		1,5		1,5		1,3		0,8		1,1		1,0		1,0
Exported pulp		2,5		2,6		1,9		1,4		2,0		2,2		2,5
Paper and cardboard		9,2		8,6		7,7		6,9		7,6		7,4		7,0
Fuel		18,2		16,9		17,1		14,9		17,4		17,7		17,9
Power plants		15,8		14,5		14,5		12,3		14,8		15,1		15,3
Small-size dwellings		2,4		2,4		2,6		2,6		2,6		2,6		2,6
Other goods		0,6		0,6		0,6		0,5		0,6		0,6		0,6
Wood waste		1,3		1,4		1,3		1,1		1,3		1,3		1,3
TOTAL		38,3		36,6		34,0		28,9		33,9		34,2		34,2
Losses, error		-2,7		-0,1		1,8		-2,1		-0,9		-1,7		-1,8
IMPORT AND EXPORT														
Thousand dry-matter tons of wood														
	2006		2007		2008		2009		2010		2011		2012	
	import	export	import	export	import	export	import	export	import	export	import	export	import	export
Roundwood, waste wood	8 113	556	7 718	550	8 590	622	3 844	496	5 125	586	4 416	633	4 205	555
Saw logs, pulp wood	6 836	349	6 395	353	6 621	383	1 858	294	3 104	258	2 845	352	2 652	323
Residues	1 191	202	1 246	192	1 849	236	1 547	199	1 946	319	1 533	258	1 512	195
Fuel wood	86	5	77	5	120	3	439	3	75	9	37	23	41	38
Forest industry products	1 064	15 364	1 205	14 983	1 193	13 206	1 015	10 499	1 160	12 178	1 208	11 926	1 300	12 398
Sawn goods	239	3 168	259	2 903	195	2 457	216	2 197	257	2 394	203	2 507	189	2 645
Veneer and boards	234	1 267	264	1 213	274	1 002	219	637	235	801	270	824	332	730
Pulp	295	2 509	366	2 316	402	2 015	317	1 368	378	1 960	425	1 770	449	2 463
Paper and cardboard	296	8 420	316	8 551	322	7 732	263	6 297	290	7 023	310	6 825	298	6 456
Recycled paper	21	126	27	96	31	99	23	140	20	105	30	109	33	104

Appendix table 3. Data on environmental load and energy consumption 2000–2012

		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Forest industry load to water bodies	1 000 t													
Suspended solid		18,2	18,5	17,4	21,5	18,4	14,4	20,4	15,4	15,1	12,0	13,8	15,0	14,0
Biological oxygen demand BOD7		17,9	15,6	17,1	16,5	13,7	11,6	13,3	12,3	10,4	8,3	9,2	7,7	8,4
Nitrogen emissions		2,8	2,8	2,6	2,6	2,6	2,5	2,7	2,7	2,4	2,2	2,4	2,5	2,4
Phosphorus emissions		0,2	0,2	0,2	0,2	0,2	0,2	0,2	0,2	0,2	0,1	0,2	0,2	0,2
CO2 emissions from wood combustion ¹⁾	Milj. t	29,3	28,4	30,7	31,2	32,8	30,5	34,1	32,8	33,2	29,3	34,9	33,7	36,2
Industrial combustion		25,0	23,6	25,8	26,3	27,8	25,4	29,0	27,6	27,7	23,5	28,4	28,2	30,1
Small-scale combustion		4,3	4,8	4,9	5,0	5,0	5,0	5,2	5,2	5,5	5,8	6,5	5,5	6,0
Electricity consumption in forest industry	TWh	26,3	25,4	26,1	26,3	27,6	24,9	28,1	28,8	26,2	19,7	21,9	21,4	20,6
DD Manufacture of wood and wood products ²⁾		1,5	1,6	1,6	1,6	1,7	1,6	1,7	1,7	1,9	1,7	1,6	1,8	2,0
DE 21 Manufacture of pulp, paper, paper products		24,8	23,8	24,5	24,7	25,9	23,3	26,4	27,1	24,3	18,0	20,3	19,6	18,6
Fuel consumption in forestry and logging ³⁾	1 000 t	96,9	97,9	96,9	94,2	92,4	89,3	82,6	82,6	82,9	78,1	81,8	85,9	88,6

1) Incl. all wood based fuels

2) Does not include production of wooded furniture

3) Light fuel oil, motor gasoline

Sources: Finnish Forest Research Institute, Finnish Environment Institute, Finnish Forest Industries Federation, Stat.Finland/ Energy Statistics, VTT/TYKO-model

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Source: Forest accounts 2012, Statistics Finland