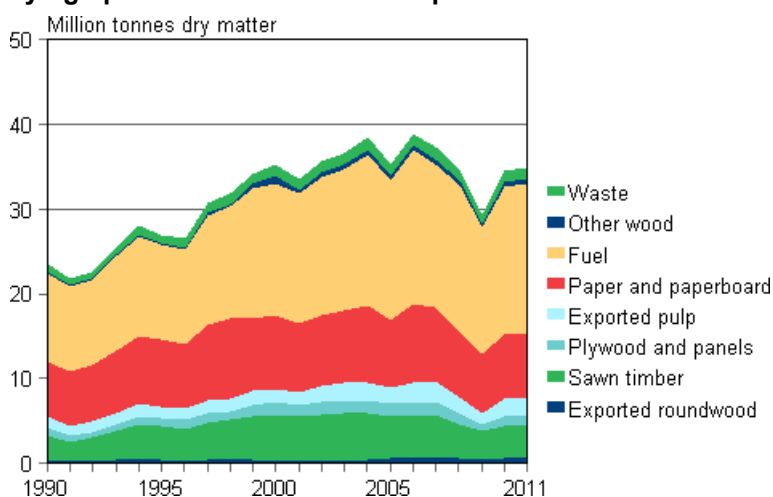


Forest accounts 2011

One-half of wood material used in Finland is burned

Fifty per cent of the total volume of wood material used in Finland in 2011 was burned. Twenty-two per cent of the wood material was tied up in paper and board, 12 per cent in sawn timber, 3 per cent in wood boards and 6 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 1990-2011



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 proportion has not fluctuated notably in the 2000s although the share of burning has also 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, and from related national accounts figures for the period between 1990 and 2011.

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Appendix table 1. Use balance 2011

	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	52 070	6 040	7 518	17 450							
Import	6 617	87		3 832	494	422	1	471	477		46
Production and other supply					9 750	1 305	3 614	6 748	11 329	12 230	735
Export	819	53		645	6 115	1 046	125	2 350	10 500		168
TOTAL SUPPLY	57 868	6 074	7 518	20 637	4 129	681	3 490	4 869	1 306	12 230	613
FOREST INDUSTRY											
Sawing and planing											
as raw material	21 304										
production				11 700	9 750						
Wood-based panels											
as raw material	2 666			309							
production				2 170							
Mec. pulp prod.											
as raw material	7 346			1 360							
production				520			3 614				
Chem. pulp prod.											
as raw material	30 014			5 929							
production				3 060				6 748		12 230	
Paper, board prod.											
as raw material							3 490	4 769			583
production									11 329		
TOTAL USE AS RAW MATERIAL IN FOREST INDUSTRY	61 330			7 598				4 769			583
OTHER USE											
Power plants as fuel		87	6 847	9 929						11 624	
Small-size dwelling as fuel		5 363	671								
Other industries and changes in inventories, as raw material	-3 462	624	0	3 110	4 129	681		100	1 306	606	30
OTHER USE TOTAL	-3 462	6 074	7 518	13 039	4 129	681		100	1 306	12 230	30

Appendix table 2. Mass balance 2005–2011

	2005		2006		2007		2008		2009		2010		2011	
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	28,3		30,4		31,3		28,9		19,6		25,5		24,9	
Fuel wood	2,3		2,3		2,3		2,9		2,9		2,5		2,6	
Forest chips	1,3		1,5		1,3		1,9		2,6		3,0		3,2	
Net import of residues	0,9		1,0		1,1		1,6		1,3		1,6		1,4	
Recycled paper	0,4		0,4		0,5		0,5		0,4		0,4		0,4	
TOTAL	33,2		35,6		36,4		35,7		26,8		33,0		32,5	
Forest industry products		16,3		18,2		17,7		14,9		12,4		14,6		14,6
Sawn goods		5,0		5,0		5,1		4,1		3,3		3,9		4,0
Veneer and boards		1,5		1,5		1,5		1,3		0,8		1,1		1,0
Exported pulp		1,8		2,5		2,6		1,9		1,4		2,0		2,2
Paper and cardboard		8,0		9,2		8,6		7,7		6,9		7,6		7,4
Fuel		16,5		18,2		16,9		17,1		14,9		17,4		17,7
Power plants		14,1		15,8		14,5		14,5		12,3		14,8		15,1
Small-size dwellings		2,4		2,4		2,4		2,6		2,6		2,6		2,6
Other goods		0,6		0,6		0,6		0,6		0,5		0,6		0,6
Wood waste		1,2		1,3		1,4		1,3		1,1		1,3		1,3
TOTAL		34,6		38,3		36,6		34,0		28,9		33,9		34,2
Losses, error		-1,4		-2,7		-0,1		1,8		-2,1		-0,9		-1,7
IMPORT AND EXPORT														
Thousand dry-matter tons of wood														
	2005		2006		2007		2008		2009		2010		2011	
	import	export	import	export	import	export	import	export	import	export	import	export	import	export
Roundwood, waste wood	8 730	586	8 113	556	7 718	550	8 590	622	3 844	496	5 125	586	4 416	633
Saw logs, pulp wood	7 489	368	6 836	349	6 395	353	6 621	383	1 858	294	3 104	258	2 845	352
Residues	1 152	215	1 191	202	1 246	192	1 849	236	1 547	199	1 946	319	1 533	258
Fuel wood	89	3	86	5	77	5	120	3	439	3	75	9	37	23
Forest industry products	980	13 438	1 064	15 364	1 205	14 983	1 193	13 206	1 015	10 499	1 160	12 178	1 208	11 926
Sawn goods	211	3 142	239	3 168	259	2 903	195	2 457	216	2 197	257	2 394	203	2 507
Veneer and boards	209	1 216	234	1 267	264	1 213	274	1 002	219	637	235	801	270	824
Pulp	258	1 842	295	2 509	366	2 316	402	2 015	317	1 368	378	1 960	425	1 770
Paper and cardboard	302	7 238	296	8 420	316	8 551	322	7 732	263	6 297	290	7 023	310	6 825
Recycled paper	20	109	21	126	27	96	31	99	23	140	20	105	30	109

Appendix table 3. Data on environmental load and energy consumption 2000–2011

		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
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
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
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
Phosphorus emissions		0,2	0,2	0,2	0,2	0,2	0,2	0,2	0,2	0,2	0,1	0,2	0,02
CO2 emissions from wood combustion ¹⁾	Milj. t	29,3	28,5	30,7	31,4	32,9	30,7	34,5	33,1	33,3	29,6	35,3	35,8
Industrial combustion		24,4	23,3	25,4	26,1	27,6	25,5	29,3	27,9	28,1	24,1	29,5	30,0
Small-scale combustion		4,9	5,2	5,3	5,3	5,3	5,2	5,2	5,2	5,2	5,5	5,8	5,8
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
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
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
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

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 2011, Statistics Finland