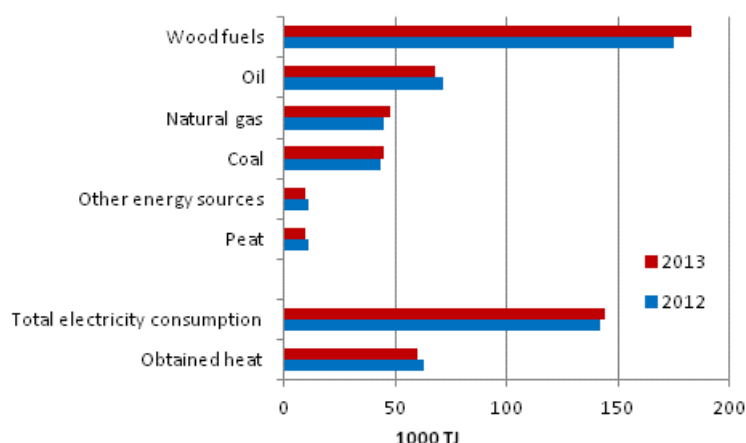


Energy use in manufacturing 2013

Energy use in manufacturing stayed level with the year before in 2013

According to Statistics Finland, energy use in manufacturing was at the same level as in the year before in 2013. Energy use in manufacturing totalled 543 petajoule (PJ). The total use of electricity in manufacturing increased by 1.7 per cent.

Use of energy in manufacturing



Includes total amounts of fuels used in manufacturing and total use of electricity and the amount of heat obtained from outside

In 2013, wood fuels were the most used energy sources in manufacturing. The share of wood fuels in all fuels used by manufacturing was 34 per cent. The consumption of wood fuels increased by 4.5 per cent from the previous year. The consumption of coal also grew, and the consumption of other energy sources decreased.

The total use of electricity in manufacturing was 40 terawatt hours (TWh) in 2013. Of the electricity used by manufacturing, 49 per cent was consumed in the forest industry, 18 per cent in the chemical industry, and 15 per cent in the manufacture of basic metals.

The use volume of heat obtained from outside went down by 4.7 per cent from 2012. Nearly one-half of purchased heat was used in the forest industry. The second biggest heat consumer is the chemical industry

that consumes one-quarter of heat obtained from outside. Heat produced by manufacturing for own use is included in the fuels consumed in manufacturing.

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Appendix tables

Appendix table 1. Energy use in manufacturing by energy source 2013

Source of energy	TJ	GWh
Refinery gas	31 555	8 765
LPG (Liquefied petroleum gas)	9 091	2 525
Other petroleum products	846	235
Light fuel oil and Gasoil	6 357	1 766
Heavy fuel oils	12 863	3 573
Petroleum coke	6 445	1 790
Recycled and waste oils	448	124
Hard coal, bituminous	3 414	948
Other coal	1 158	322
Coke ¹⁾	22 517	6 255
Blast furnace gas, Coke oven gas and CO gas	17 368	4 824
Natural gas	47 306	13 141
Milled peat	9 317	2 588
Sod peat and Peat pellets and briquettes	134	37
Forest chippings and other firewood	6 846	1 902
Bark	23 188	6 441
Sawdust, cutter shavings etc.	2 879	800
Other industrial wood residue	3 190	886
Black liquor and other concentrated liquors	140 701	39 083
Wood pellets and briquettes	265	74
Other biofuels	1 640	456
Biogas	181	50
Recovered fuels	3 218	894
Waste and other non-specified energy sources	1 186	330
Exothermic heat from industry	2 554	710
Hydrogen	305	85
Electricity	114 378	31 772
District heat	11 581	3 217
Heat used in production processes	47 963	13 323
Total	535 112	148 642

Includes industries (TOL 2008) B Mining and quarrying and C Manufacturing (including autoproducer plants). Does not include the energy use of industry D Electricity, gas and steam supply. Includes the fuel consumption of industrial establishments (including autoproducer establishments) as well as the external net purchases of electricity and heat. Summing these together gives the total energy use in the industry.

1) Includes coke intake into blast furnace and other coke consumption in industry. Energy content of coke has been subtracted by the energy content of the produced blast furnace gas.

Appendix table 2. Energy use in manufacturing by industry 2013

Industries	Fuels TJ	Electricity (nett) TJ ¹⁾	Heat (nett) TJ ¹⁾	Total TJ
05 Mining of coal and lignite	.	.	.	.
06 Extraction of crude petroleum and natural gas	.	.	.	.
07 Mining of metal ores	747	3 530	132	4 408
08–09 Other mining and quarrying and mining support service activities	2 069	1 041	36	3 147
10 Manufacture of food products	4 185	5 497	4 594	14 276
11 Manufacture of beverages	665	770	1 219	2 654
12 Manufacture of tobacco products	.	.	.	.
13 Manufacture of textiles	238	476	243	956
14 Manufacture of wearing apparel	168	193	54	416
15 Manufacture of leather and related products	26	57	30	113
16 Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials	9 341	5 313	9 428	24 082
17 Manufacture of paper and paper products	217 413	41 329	19 185	277 927
18 Printing and reproduction of recorded media	315	984	245	1 544
19 Manufacture of coke and refined petroleum products	46 146	2 538	532	49 216
20 Manufacture of chemicals and chemical products	16 305	15 875	13 183	45 363
21 Manufacture of basic pharmaceutical products and pharmaceutical preparations	74	318	370	761
22 Manufacture of rubber and plastic products	933	3 495	914	5 343
23 Manufacture of other non-metallic mineral products	9 135	2 733	503	12 371
24 Manufacture of basic metals	50 629	19 317	3 663	73 608
25 Manufacture of fabricated metal products, except machinery and equipment	1 017	3 478	1 141	5 637
26 Manufacture of computer, electronic and optical products	35	909	412	1 356
27 Manufacture of electrical equipment	201	1 264	527	1 992
28 Manufacture of machinery and equipment n.e.c.	621	2 939	1 406	4 967
29 Manufacture of motor vehicles, trailers and semi-trailers	258	464	299	1 021
30 Manufacture of other transport equipment	242	526	504	1 272
31 Manufacture of furniture	243	522	302	1 067
32 Other manufacturing	65	199	113	378
33 Repair and installation of machinery and equipment	119	613	508	1 241
Total	361 190	114 378	59 544	535 112
. No data available (the sample contained no establishments)				
Includes industries (TOL 2008) B Mining and quarrying and C Manufacturing (including autoproducer plants). Does not include the energy use of industry D Electricity, gas and steam supply. Includes the fuel consumption of industrial establishments (including autoproducer establishments) as well as the external net purchases of electricity and heat. Summing these together gives the total energy use in the industry.				

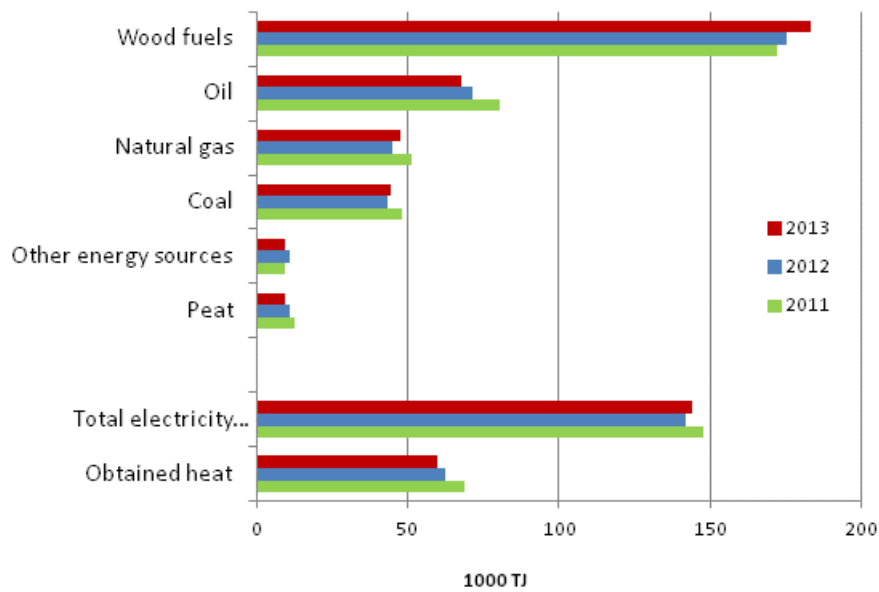
1) Net purchases

Appendix table 3. Total electricity consumption in manufacturing 2013

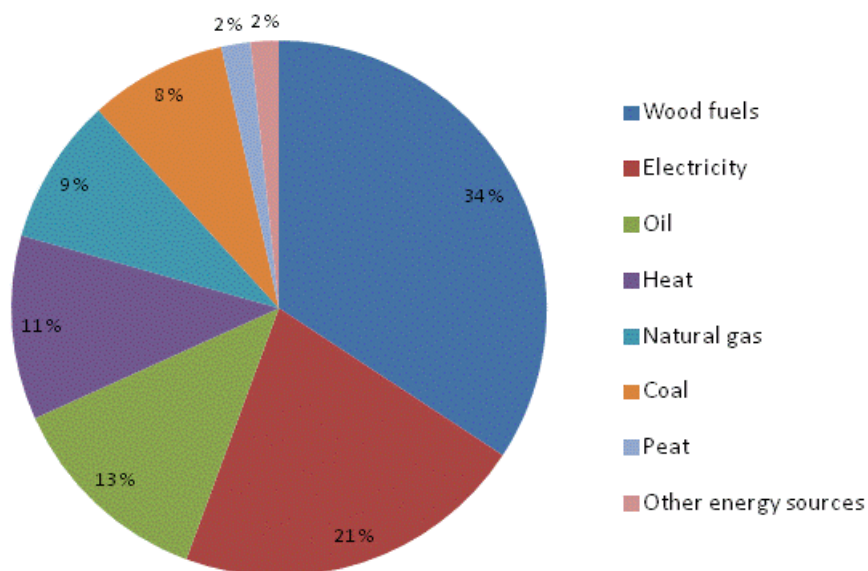
Industries	GWh
05 Mining of coal and lignite	.
06 Extraction of crude petroleum and natural gas	.
07 Mining of metal ores	980
08–09 Other mining and quarrying and Mining support service activities	289
10 Manufacture of food products	1 562
11 Manufacture of beverages	214
12 Manufacture of tobacco products	.
13 Manufacture of textiles	132
14 Manufacture of wearing apparel	54
15 Manufacture of leather and related products	16
16 Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials	1 538
17 Manufacture of paper and paper products	18 172
18 Printing and reproduction of recorded media	273
19 Manufacture of coke and refined petroleum products	1 252
20 Manufacture of chemicals and chemical products	4 785
21 Manufacture of basic pharmaceutical products and pharmaceutical preparations	100
22 Manufacture of rubber and plastic products	971
23 Manufacture of other non-metallic mineral products	759
24 Manufacture of basic metals	5 913
25 Manufacture of fabricated metal products, except machinery and equipment	969
26 Manufacture of computer, electronic and optical products	252
27 Manufacture of electrical equipment	351
28 Manufacture of machinery and equipment n.e.c.	828
29 Manufacture of motor vehicles, trailers and semi-trailers	129
30 Manufacture of other transport equipment	146
31 Manufacture of furniture	145
32 Other manufacturing	56
33 Repair and installation of machinery and equipment	171
Total	40 058
. No data available (the sample contained no establishments)	
Includes industries (TOL 2008) B Mining and quarrying and C Manufacturing (including autoproducer plants). Does not include the energy use of industry D Electricity, gas and steam supply. Includes total consumption of electricity of industrial establishments (including autoproducer establishments). Summing these together gives the total electricity use in the industry.	

Appendix figures

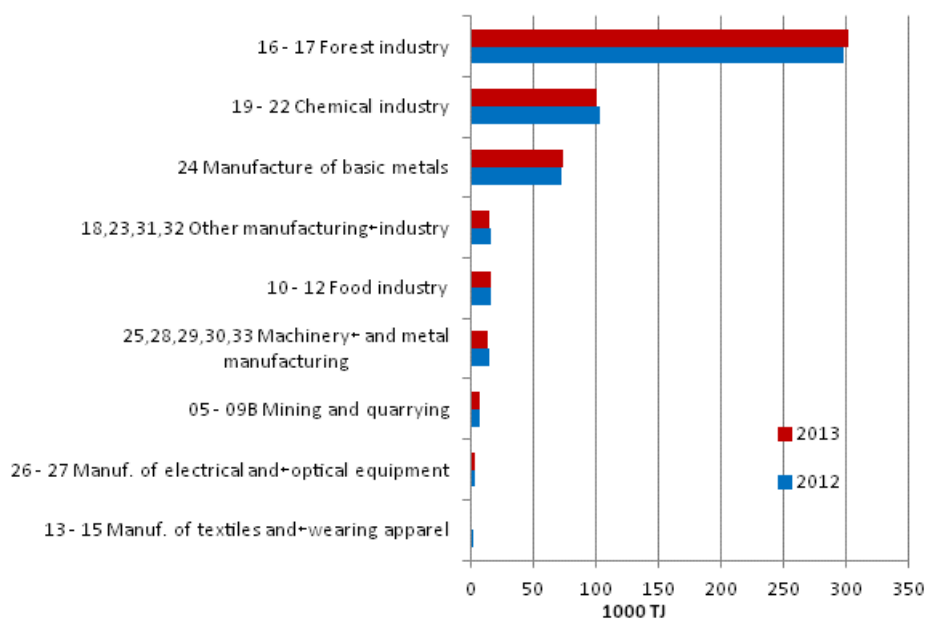
Appendix figure 1. Use of energy in manufacturing



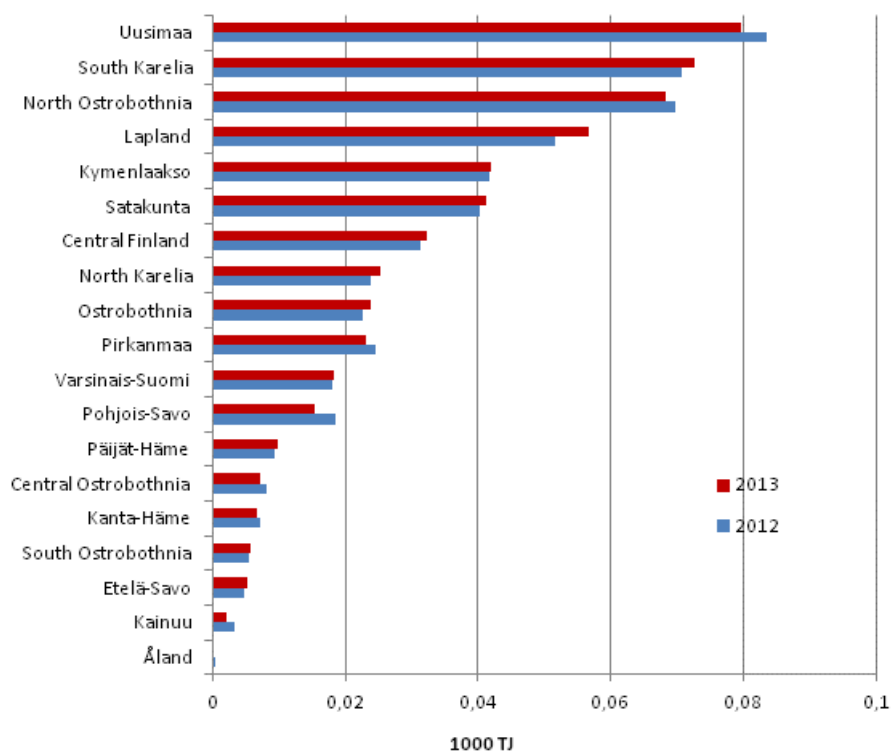
Appendix figure 2. Energy use in manufacturing by energy source 2013



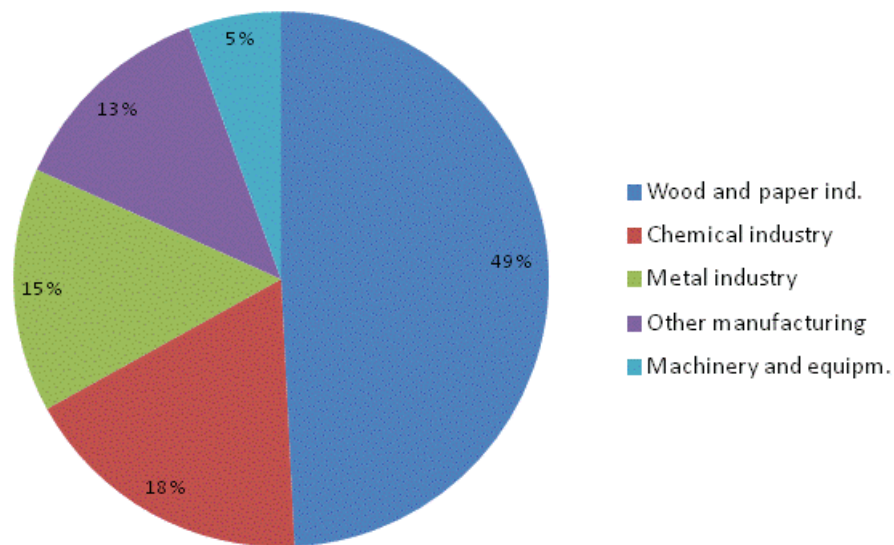
Appendix figure 3. Energy use in manufacturing by industry



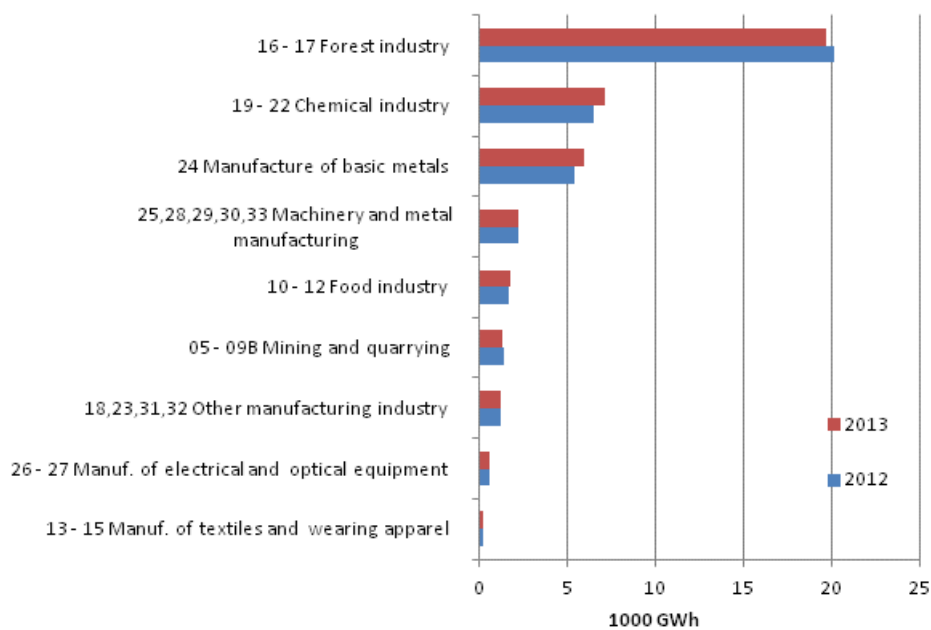
Appendix figure 4. Energy use in manufacturing by region



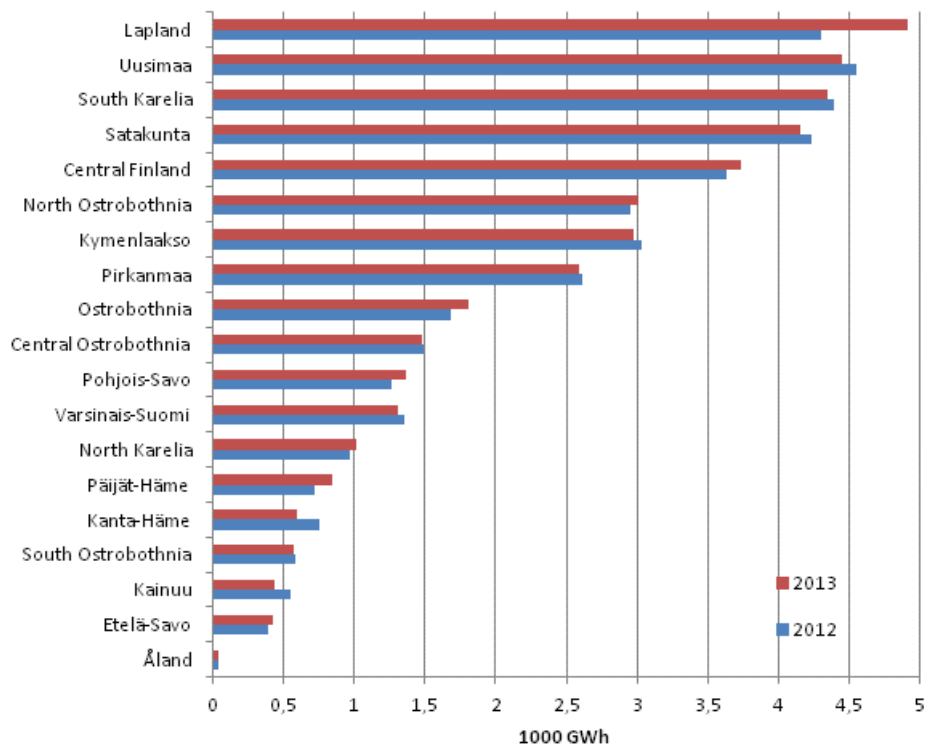
Appendix figure 5. Total electricity consumption in manufacturing 2013



Appendix figure 6. Total electricity consumption by manufacturing branch



Appendix figure 7. Total electricity consumption in manufacturing by region



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Source: Energy use in manufacturing, Statistics Finland