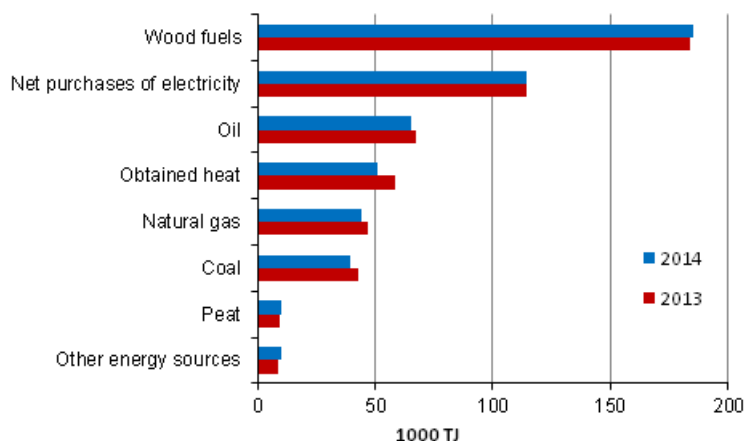


# Energy use in manufacturing 2014

## Energy use in manufacturing diminished by 2 per cent in 2014

According to Statistics Finland, energy use in manufacturing decreased by two per cent from the previous year in 2014. Energy consumption totalled 521 petajoules (PJ). The total use of electricity in manufacturing decreased by one per cent.

### Use of energy in manufacturing



Like last year, wood fuels were the most used source of energy in manufacturing. Their share in all fuels in manufacturing was 36 per cent. Consumption of wood fuels grew by close on one per cent. The consumption of fossil fuels (oil, natural gas and coal) declined by five per cent from 2013.

The total use of electricity in manufacturing was almost 40 terawatt hours (TWh). Nearly one-half (48%) of the electricity used by manufacturing was used in the forest industry. The chemical industry (22%) and manufacture of metals (15%) are also considerable electricity users. The share of manufacturing in overall electricity consumption is around one-half.

The biggest heat consumers are the forestry and chemical industries that consume nearly two-thirds of purchased heat used in manufacturing. The amount of heat obtained from outside decreased mainly due to structural changes. Heat produced by manufacturing for own use is included in the fuels consumed in manufacturing. If a power plant producing electricity/heat is outsourced to an enterprise operating in the

energy sector, the fuels used by the plant are moved from manufacturing to the energy sector and the electricity/heat is visible as purchased electricity or heat in manufacturing.

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# Appendix tables

**Appendix table 1. Energy use in manufacturing by energy source 2014**

Source of energy	TJ	GWh
Refinery gas	29 004	8 057
LPG (Liquefied petroleum gas)	9 896	2 749
Light fuel oil and Gasoil	6 201	1 723
Heavy fuel oils	12 842	3 567
Petroleum coke	6 145	1 707
Recycled and waste oils	561	156
Other petroleum products	917	255
Hard coal, bituminous	3 410	947
Other coal	1 369	380
Coke <sup>1)</sup>	21 840	6 067
Blast furnace gas, Coke oven gas and CO gas	13 168	3 658
Natural gas	44 072	12 242
Milled peat	10 290	2 858
Sod peat and Peat pellets and briquettes	214	59
Forest chippings and other firewood	6 758	1 877
Bark	23 459	6 516
Sawdust, cutter shavings etc.	3 115	865
Other industrial wood residue	4 421	1 228
Black liquor and other concentrated liquors	141 906	39 418
Other by-products from wood processing industry	5 640	1 567
Wood pellets and briquettes	287	80
Other biofuels	199	55
Biogas	1 894	526
Recovered fuels	3 157	877
Waste and other non-specified energy sources	2 047	569
Exothermic heat from industry	2 543	706
Hydrogen	295	82
Electricity	114 448	31 791
District heat	11 219	3 117
Heat used in production processes	39 758	11 044
Total	521 075	144 743

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 2014**

Industries	Fuels TJ	Electricity (nett) TJ <sup>1)</sup>	Heat (nett) TJ <sup>1)</sup>	Total TJ
05 Mining of coal and lignite	.	.	.	.
06 Extraction of crude petroleum and natural gas	.	.	.	.
07 Mining of metal ores	387	4 008	90	4 485
08–09 Other mining and quarrying and mining support service activities	1 966	1 010	24	3 000
10 Manufacture of food products	4 569	6 110	5 525	16 203
11 Manufacture of beverages	694	556	819	2 069
12 Manufacture of tobacco products	.	.	.	.
13 Manufacture of textiles	359	376	196	931
14 Manufacture of wearing apparel	141	166	67	374
15 Manufacture of leather and related products	27	40	25	92
16 Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials	10 468	4 514	7 501	22 483
17 Manufacture of paper and paper products	216 644	41 428	12 488	270 560
18 Printing and reproduction of recorded media	378	1 139	629	2 146
19 Manufacture of coke and refined petroleum products	44 184	2 912	417	47 512
20 Manufacture of chemicals and chemical products	16 917	15 566	9 971	42 453
21 Manufacture of basic pharmaceutical products and pharmaceutical preparations	64	295	328	687
22 Manufacture of rubber and plastic products	1 086	3 306	1 266	5 658
23 Manufacture of other non-metallic mineral products	8 416	2 414	434	11 264
24 Manufacture of basic metals	45 968	19 756	5 694	71 418
25 Manufacture of fabricated metal products, except machinery and equipment	1 467	3 429	978	5 873
26 Manufacture of computer, electronic and optical products	29	775	344	1 147
27 Manufacture of electrical equipment	114	1 450	570	2 135
28 Manufacture of machinery and equipment n.e.c.	840	2 760	1 825	5 424
29 Manufacture of motor vehicles, trailers and semi-trailers	197	440	381	1 017
30 Manufacture of other transport equipment	95	594	572	1 262
31 Manufacture of furniture	455	493	231	1 179
32 Other manufacturing	87	164	82	333
33 Repair and installation of machinery and equipment	98	538	446	1 082
<b>Total</b>	<b>355 649</b>	<b>114 448</b>	<b>50 977</b>	<b>521 075</b>

. 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.

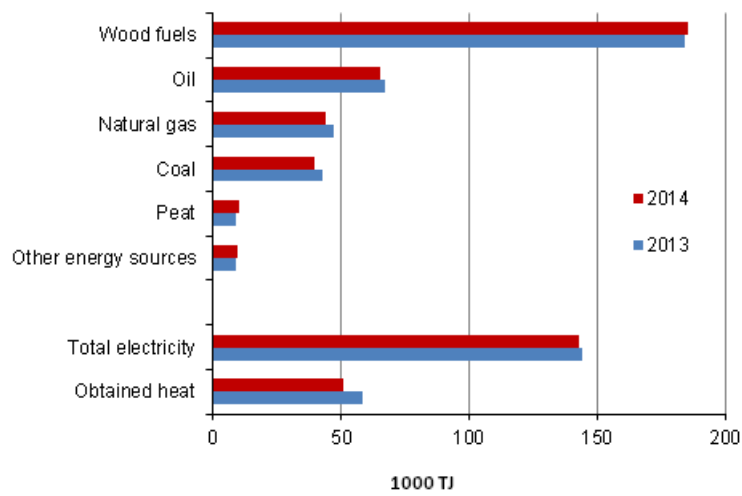
1) Net purchases

**Appendix table 3. Total electricity consumption in manufacturing 2014**

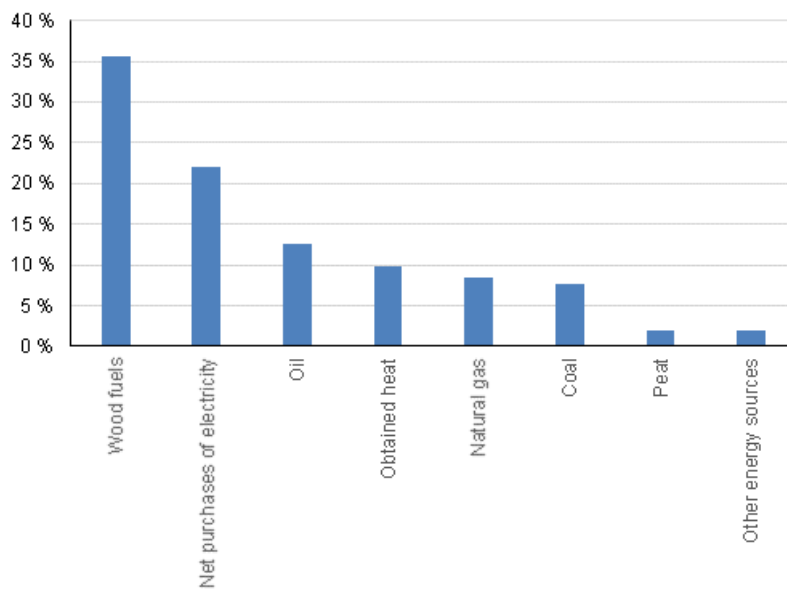
Industries	GWh
07 Mining of metal ores	1 113
08–09 Other mining and quarrying and Mining support service activities	283
10 Manufacture of food products	1 729
11 Manufacture of beverages	155
12 Manufacture of tobacco products	.
13 Manufacture of textiles	113
14 Manufacture of wearing apparel	46
15 Manufacture of leather and related products	11
16 Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials	1 325
17 Manufacture of paper and paper products	18 021
18 Printing and reproduction of recorded media	316
19 Manufacture of coke and refined petroleum products	1 284
20 Manufacture of chemicals and chemical products	4 551
21 Manufacture of basic pharmaceutical products and pharmaceutical preparations	92
22 Manufacture of rubber and plastic products	918
23 Manufacture of other non-metallic mineral products	674
24 Manufacture of basic metals	5 953
25 Manufacture of fabricated metal products, except machinery and equipment	953
26 Manufacture of computer, electronic and optical products	215
27 Manufacture of electrical equipment	403
28 Manufacture of machinery and equipment n.e.c.	795
29 Manufacture of motor vehicles, trailers and semi-trailers	122
30 Manufacture of other transport equipment	165
31 Manufacture of furniture	137
32 Other manufacturing	46
33 Repair and installation of machinery and equipment	151
Total	39 631
. 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

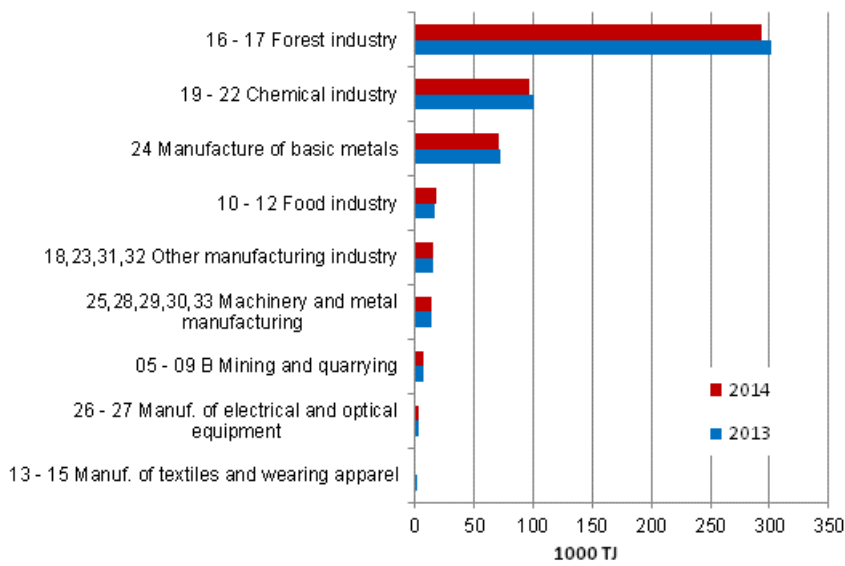
**Appendix figure 1. Use of energy in manufacturing**



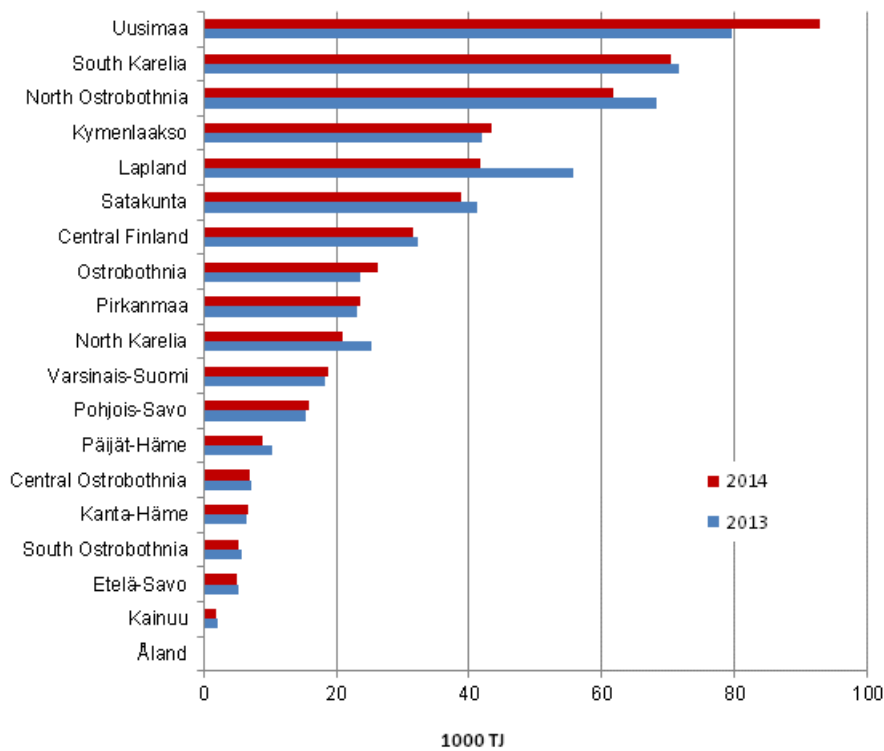
**Appendix figure 2. Energy use in manufacturing by energy source 2014**



**Appendix figure 3. Energy use in manufacturing by industry**

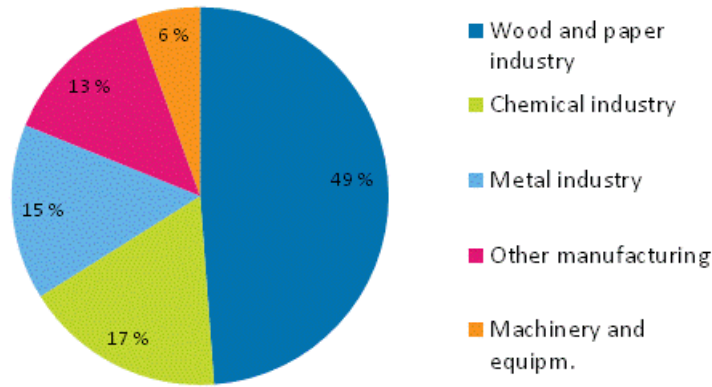


**Appendix figure 4. Energy use in manufacturing by region**

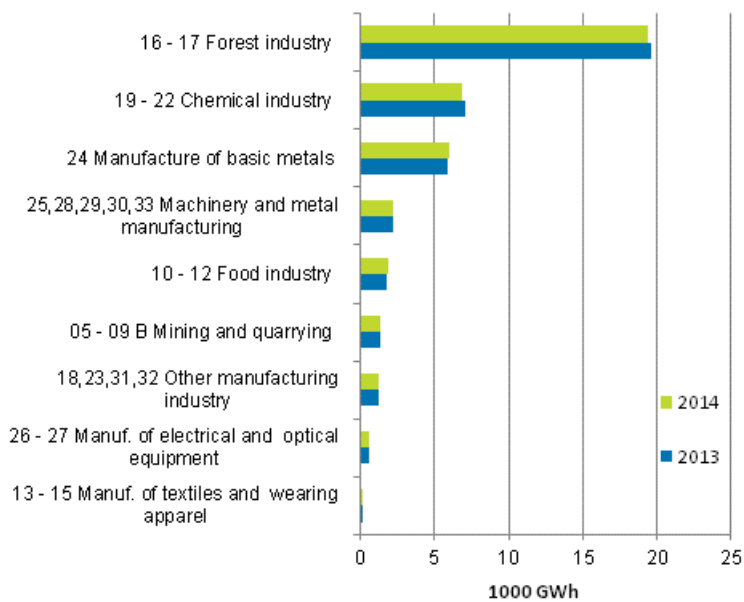




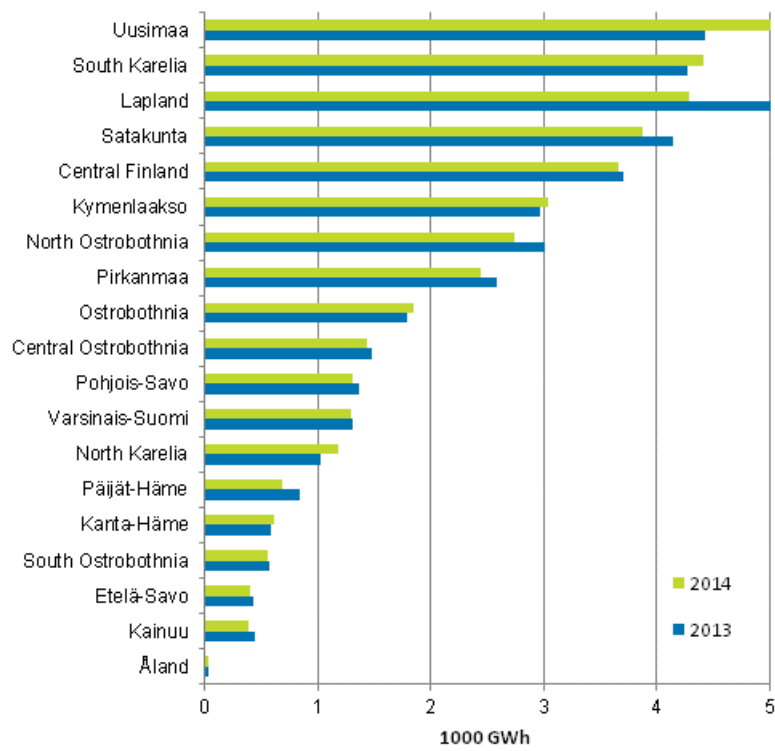
**Appendix figure 5. Total electricity consumption in manufacturing 2014**



**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