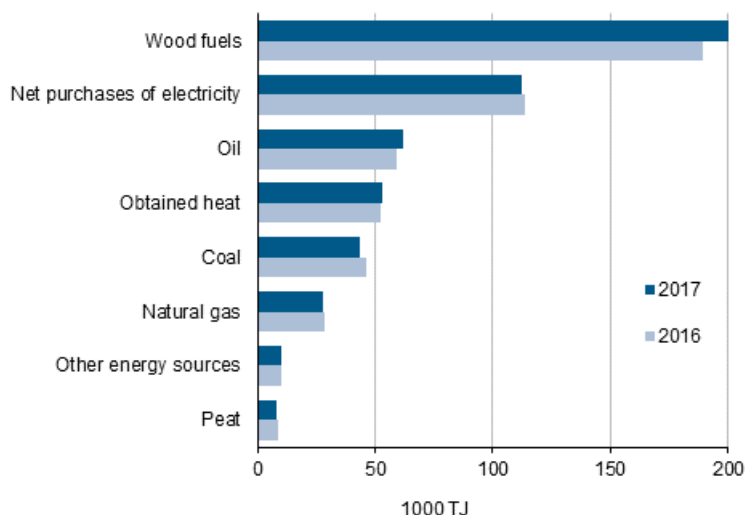


Energy use in manufacturing 2017

Energy use in manufacturing grew by 2 per cent in 2017

According to Statistics Finland, energy use in manufacturing grew by two per cent in 2017. Manufacturing consumed 519 petajoules (PJ) of energy, which was 2.1 per cent more than in the year before. Total use of electricity increased by 1.4 per cent from the previous year.

Use of energy in manufacturing



The growth in industrial production still continued, which was also visible as an increase in energy use. Of the energy-intensive industries, especially the growth in the forest industry and the chemical industry was visible as an increase in fuel use. Industrial production is reaching the level where it was before the economic crisis in the euro area, but energy consumption has grown only to the level of three years back. Both production and energy consumption are still clearly below the peak level prior to the financial crisis.

Due to the continuing strong trends and increased capacity in the forest industry the consumption of especially wood fuels increased. Of all sources of energy, the share of wood fuels went up most strongly, in both relative and absolute terms. The share of wood fuels of the energy consumed by manufacturing increased to 39 per cent. Of energy sources, the consumption of oil also increased. However, consumption of other fossil fuels and peat declined more than the consumption of oil increased, so the structure of consumption continued developing in a renewable, low-emission direction.

The forest industry is still the most significant energy consumer of all industries. Its share of the energy consumed by manufacturing is close to 60 per cent. Together with the chemical industry and manufacturing of basic metals the share is almost 90 per cent. The forest industry accounted for around one-half of the total use of electricity in manufacturing. Because the industry itself produces electricity, its share of net purchases of electricity in manufacturing is smaller, under 40 per cent of all electricity purchased.

Viewed by region, energy use follows the distribution of big, energy-intensive units in heavy manufacturing. Energy use in manufacturing was highest in South Karelia, Uusimaa and North Ostrobothnia. The most significant regions when it comes to use of electricity were Lapland, South Karelia and Uusimaa.

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Appendix tables

Appendix table 1. Energy use in manufacturing by energy source 2017

Source of energy	TJ	GWh
Refinery gas	28 542	7 928
LPG (Liquefied petroleum gas)	9 711	2 698
Light fuel oil and Gasoil	5 459	1 516
Heavy fuel oils	6 932	1 925
Petroleum coke	6 166	1 713
Recycled and waste oils	340	94
Other petroleum products	4 929	1 369
Hard coal, bituminous	15 725	4 368
Other coal	3	1
Coke	14 865	4 129
Blast furnace gas and Coke oven gas and CO gas	13 296	3 693
Natural gas	27 938	7 761
Milled peat	8 114	2 254
Sod peat and Peat pellets and briquettes	171	48
Forest chippings and other firewood	5 272	1 464
Bark	25 039	6 955
Sawdust, cutter shavings etc.	4 637	1 288
Other industrial wood residue	3 933	1 093
Black liquor and other concentrated liquors	154 764	42 990
Other by-products from wood processing industry	7 317	2 032
Wood pellets and briquettes	160	45
Biogas	231	64
Other biofuels	2 019	561
Recovered fuels	3 513	976
Waste and other non-specified energy sources	1 608	447
Hydrogen	232	65
Electricity	112 107	31 141
District heat	11 312	3 142
Heat used in production processes	41 675	11 576
Total	518 915	144 143

Appendix table 2. Energy use in manufacturing by industry 2017

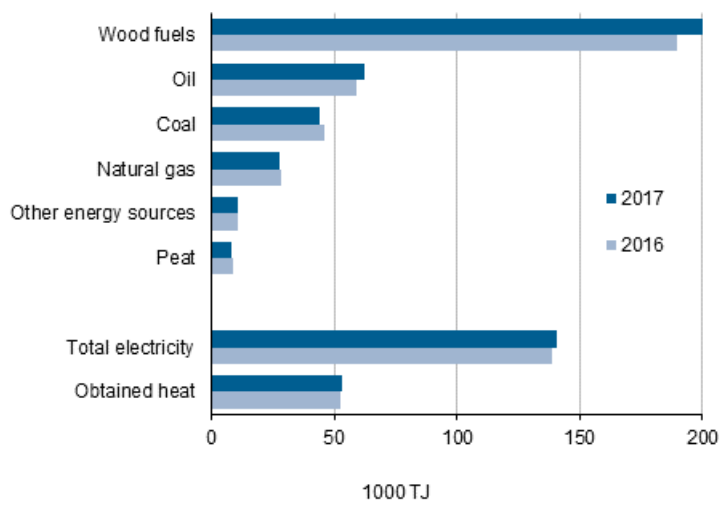
Industries	Fuels, TJ	Electricity (nett), TJ	Heat (nett) TJ	Total, TJ
05 Mining of coal and lignite	.	.	.	.
06 Extraction of crude petroleum and natural gas	.	.	.	.
07 Mining of metal ores	400	4 285	149	4 834
08-09 Other mining and quarrying and mining support service activities	991	901	21	1 913
10 Manufacture of food products	4 039	6 072	4 849	14 960
11 Manufacture of beverages	188	566	931	1 685
12 Manufacture of tobacco products	.	.	.	.
13 Manufacture of textiles	172	277	139	587
14 Manufacture of wearing apparel	47	70	22	138
15 Manufacture of leather and related products	33	45	18	96
16 Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials	9 437	5 541	9 290	24 268
17 Manufacture of paper and paper products	228 141	38 637	11 548	278 325
18 Printing and reproduction of recorded media	136	747	271	1 154
19 Manufacture of coke and refined petroleum products	33 709	4 450	5 453	43 611
20 Manufacture of chemicals and chemical products	16 708	15 171	9 052	40 931
21 Manufacture of basic pharmaceutical products and pharmaceutical preparations	22	341	354	717
22 Manufacture of rubber and plastic products	738	3 098	1 001	4 837
23 Manufacture of other non-metallic mineral products	9 948	2 906	547	13 402
24 Manufacture of basic metals	46 833	19 245	4 394	70 472
25 Manufacture of fabricated metal products, except machinery and equipment	823	3 654	1 232	5 708
26 Manufacture of computer, electronic and optical products	27	971	365	1 364
27 Manufacture of electrical equipment	65	1 128	509	1 702
28 Manufacture of machinery and equipment n.e.c.	698	1 865	1 076	3 638
29 Manufacture of motor vehicles, trailers and semi-trailers	234	470	407	1 112
30 Manufacture of other transport equipment	250	668	531	1 450
31 Manufacture of furniture	182	225	87	495
32 Other manufacturing	93	241	119	453
33 Repair and installation of machinery and equipment	117	532	622	1 270
Total	354 032	112 107	52 987	519 126

Appendix table 3. Total electricity consumption in manufacturing 2017

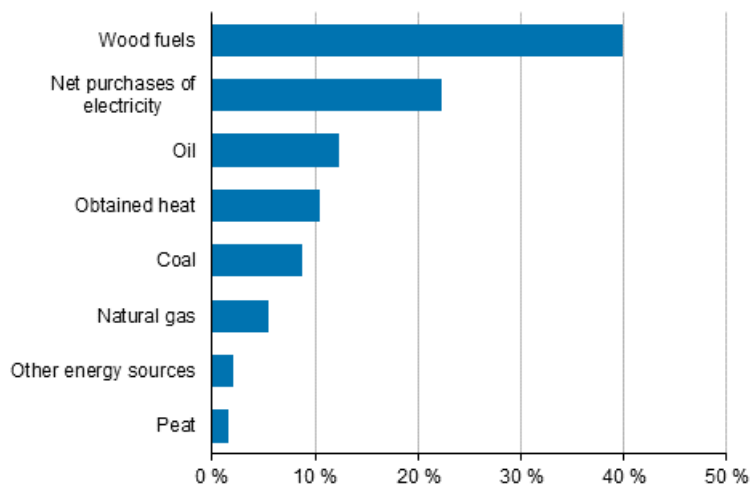
Industries	GWh
07 Mining of metal ores	1 190
08□09 Other mining and quarrying and mining support service activities	252
10 Manufacture of food products	1 755
11 Manufacture of beverages	157
12 Manufacture of tobacco products	.
13 Manufacture of textiles	77
14 Manufacture of wearing apparel	19
15 Manufacture of leather and related products	12
16 Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials	1 601
17 Manufacture of paper and paper products	17 560
18 Printing and reproduction of recorded media	208
19 Manufacture of coke and refined petroleum products	1 236
20 Manufacture of chemicals and chemical products	4 471
21 Manufacture of basic pharmaceutical products and pharmaceutical preparations	95
22 Manufacture of rubber and plastic products	861
23 Manufacture of other non-metallic mineral products	811
24 Manufacture of basic metals	6 053
25 Manufacture of fabricated metal products, except machinery and equipment	1 019
26 Manufacture of computer, electronic and optical products	270
27 Manufacture of electrical equipment	314
28 Manufacture of machinery and equipment n.e.c.	533
29 Manufacture of motor vehicles, trailers and semi-trailers	137
30 Manufacture of other transport equipment	186
31 Manufacture of furniture	62
32 Other manufacturing	67
33 Repair and installation of machinery and equipment	148
Total	39 092

Appendix figures

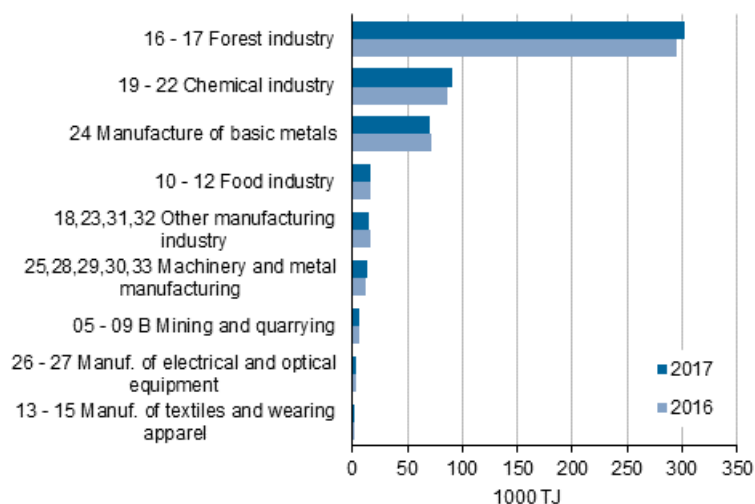
Appendix figure 1. Use of energy in manufacturing



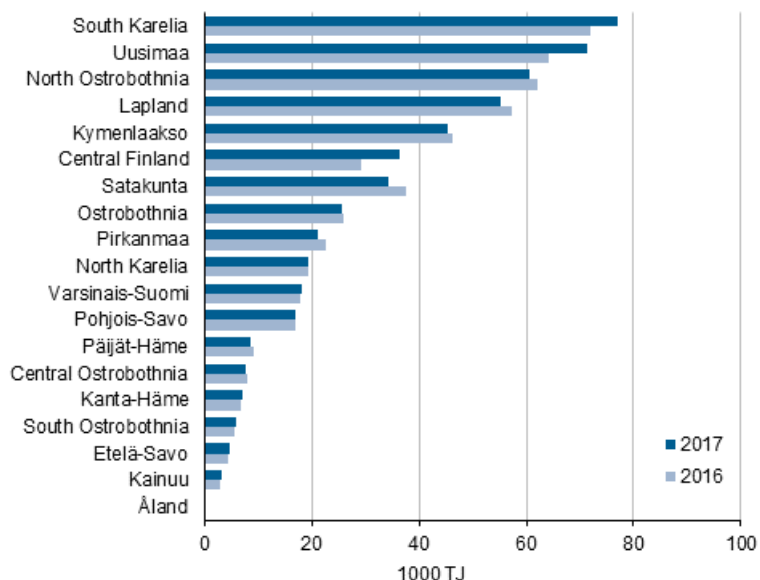
Appendix figure 2. Energy use in manufacturing by energy source



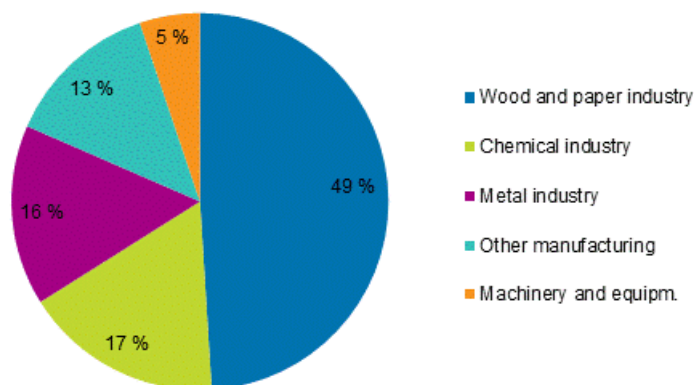
Appendix figure 3. Energy use in manufacturing by industry



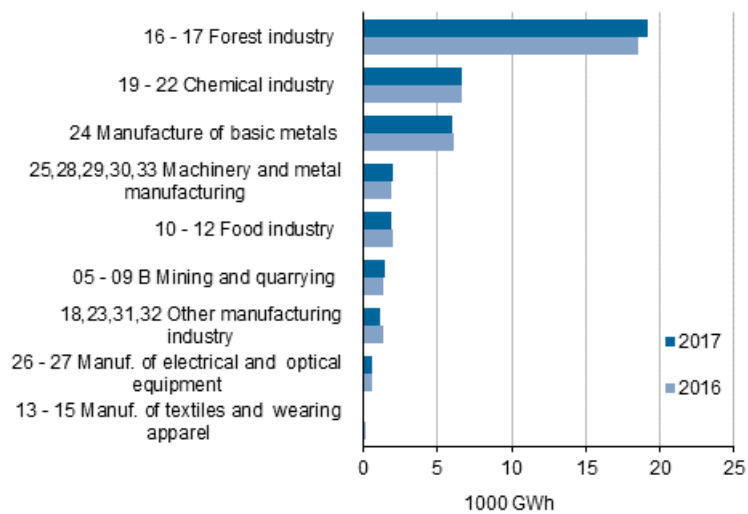
Appendix figure 4. Energy use in manufacturing by region



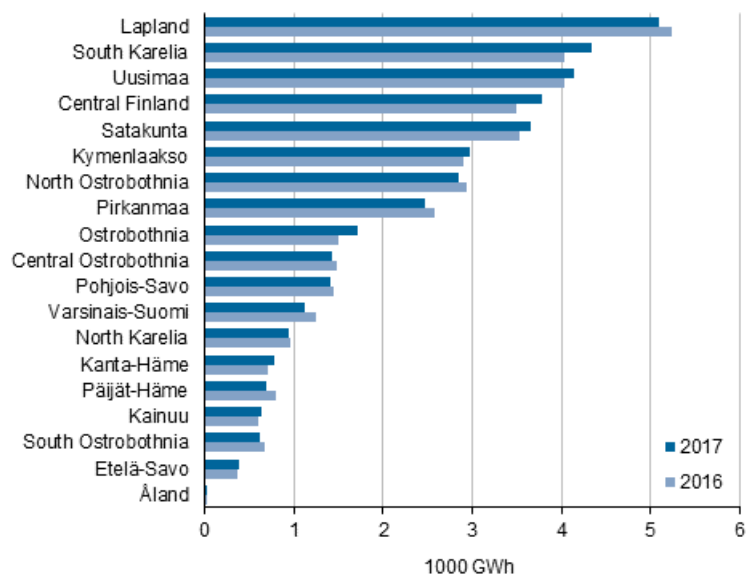
Appendix figure 5. Total electricity consumption in manufacturing



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