

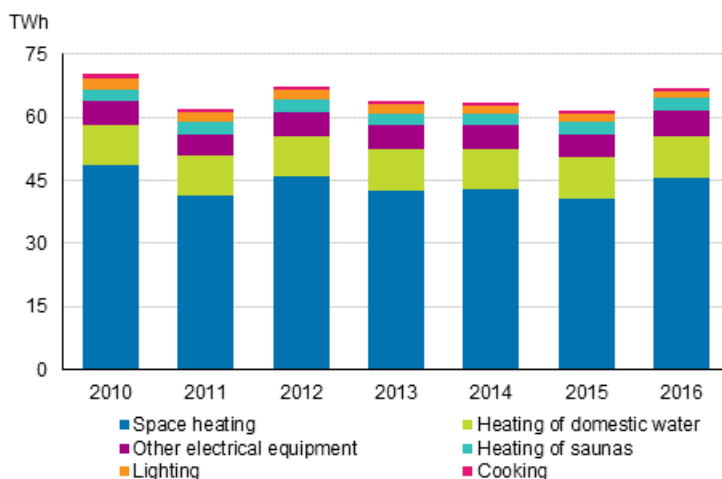
# Energy consumption in households 2016

## Cold weather raised energy consumption in housing in 2016

**Corrected on 1 February 2018.** The corrections are indicated in red.

In 2016, electricity used in housing amounted to **67** terawatt hours (TWh). Consumption rose by **nine** per cent from the previous year. The year 2016 was clearly colder than 2015, although the heating demand during the year was still lower than the long-term heating demand. Compared to the previous year, consumption of heating energy in indoor spaces rose by **twelve** per cent. The energy consumption of household appliances went up by five per cent, which was mainly due to the grown heating demand of cars. The data are based on Statistics Finland's statistics on energy consumption in households.

### Energy consumption in households 2010-2016 (Corrected on 1 February 2018)



Heating of residential buildings amounted to sixty-eight per cent of energy consumption in housing, heating of domestic water fifteen per cent and heating of saunas five per cent. The share of electrical equipment, cooking and lighting was close on 13 per cent. Housing accounted, on average, for 20 per cent of the final energy consumption.

In 2016, electricity used on housing amounted to close on 23 TWh. Consumption of electricity rose by eight per cent from the previous year. Forty-seven per cent of electricity was used to heat indoor areas and 36 per cent to household appliances. The remaining share of electricity was used to heat domestic water and saunas. District heat and wood were the next most used energy sources in households.

Heating of residential buildings consumed 46 TWh of energy in 2016. Consumption rose by twelve per cent from the previous year. The most common sources of energy for heating indoor spaces were district heat, wood and electricity, the share of which was 85 per cent of the energy consumption for heating indoor spaces. The next most common energy source was heat pump energy. The use of heat pumps for heating has grown significantly from the start of the millennium. This is visible in the statistics as growth in both heat pump energy and electricity use. Heat pump energy refers to the energy extracted with heat pumps from the environment. The electricity use of heat pumps is included in electricity consumption of heating in the statistics on energy consumption in households. Heat pumps decrease the use of heating electricity when they replace conventional electric heating. In newbuilding and when replacing fuel oil, for example, electricity use grows. The cooling use of air heat pumps is currently included only in electricity consumption.

In addition to the area to be heated and the energy efficiency of the building stock, the need for heating energy is also affected by the outdoor temperature. Its changes are monitored with heating degree days. In the long-term comparison, the year 2016 was still warm, although it was clearly colder than the record-warm year 2015. However, consumption rose less than the number of heating degree days despite the fact that the area to be heated continues to grow by around one per cent per year. This indicates an improvement of energy efficiency.

Around three TWh of energy was used for heating saunas in 2016. Nearly two-thirds of energy were wood and good one-third electricity. The energy consumption of heating domestic water was 10 TWh.

The energy consumption of household appliances, that is, cooking, lighting and other electrical equipment, was good eight TWh in 2016. Appliances accounted for around 12 per cent of the entire housing energy. One per cent of this was used on cooking, that is, using cookers and ovens, and two-and-a-half per cent on lighting. The remaining nine per cent was used in other electrical equipment. They include small appliances for cooking, refrigeration equipment, washing machines, tumble dryers, televisions and computers with their accessories, lifts, and car interior heating. The colder winter than in the previous year raised the consumption of electricity for equipment. This was mainly due to the grown heatind demand of cars.

With respect to the consumption of heating energy in indoor spaces, domestic water and saunas, the statistics on energy consumption in households are based on Statistics Finland's calculation model where various sources were utilised. Part of the data have been estimated as the interval between the surveys used as data sources has become longer.

The concepts of the statistics correspond to the divisions of the European Union's Regulation on energy statistics concerning energy use in households. Based on the division, heating of indoor spaces and domestic water, cooking, electrical equipment, and heating of saunas are reported separately.

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# Appendix tables

**Appendix table 1. Energy consumption in households 2010-2016, GWh (Corrected on 1 February 2018)**

Corrected on 2 February 2018. The corrections are indicated in red.							
	2010	2011	2012	2013	2014	2015	2016
Heating of spaces	48 765	41 419	45 928	42 739	42 831	40 804	45 692
Residential buildings proper, total	46 365	39 339	43 663	40 643	40 690	38 760	43 252
- Detached houses	29 101	25 091	27 641	25 595	25 967	24 507	27 373
- Terraced houses	4 462	3 767	4 215	3 972	3 925	3 816	4 208
- Blocks of flats	12 802	10 481	11 807	11 076	10 798	10 437	11 671
Free-time residential buildings	2 399	2 080	2 265	2 097	2 140	2 044	2 440
Household appliances <sup>1)</sup>	9 092	8 320	8 856	8 395	8 099	7 886	8 295
- Lighting	2 702	2 482	2 349	2 115	1 919	1 876	1 770
- Cooking	826	799	714	697	689	680	681
- Other electrical equipment	5 564	5 039	5 793	5 583	5 491	5 330	5 844
Heating of saunas	2 880	2 871	2 894	2 902	2 924	2 920	3 049
Heating of domestic water	9 522	9 584	9 658	9 727	9 789	9 850	9 961
<b>Housing, total</b>	<b>70 259</b>	<b>62 194</b>	<b>67 336</b>	<b>63 763</b>	<b>63 643</b>	<b>61 460</b>	<b>66 997</b>

1) Apart from electricity consumption, consumption of household appliances includes use of natural gas and liquid gas in cooking. Electricity consumption also covers solar power produced by households.

**Appendix table 2. Energy consumption in households by energy source in 2016, GWh (Corrected on 1 February 2018)**

Corrected on 2 February 2018. The corrections are indicated in red.										
	Wood	Peat	Coal	Heavy fuel oil	Light fuel oil	Natural gas <sup>1)</sup>	Ambient energy <sup>2)</sup>	District heat	Electricity <sup>3)</sup>	Total
<b>Housing, total</b>	15 123	44	2	71	3 801	407	5 441	19 594	22 514	66 997
Heating of spaces	12 837	29	2	52	3 104	244	4 592	14 293	10 539	45 692
Residential buildings proper, total	11 480	29	2	52	3 061	243	4 421	14 290	9 674	43 252
- Detached houses	11 299	25	2	..	2 529	66	3 897	1 907	7 648	27 373
- Terraced houses	135	1	..	..	117	55	469	2 265	1 166	4 208
- Blocks of flats	46	3	..	52	415	122	55	10 118	860	11 671
Free-time residential buildings	1 357	0	0	..	43	1	171	3	865	2 440
Household appliances	..	..	..	..	..	101	..	..	8 194	8 295
- Lighting	..	..	..	..	..	..	..	..	1 770	1 770
- Cooking	..	..	..	..	..	101	..	..	580	681
- Other electrical equipment	..	..	..	..	..	..	..	..	5 844	5 844
Heating of saunas	1 829	..	..	..	..	..	..	..	1 220	3 049
Heating of domestic water	457	15	0	19	697	62	849	5 301	2 561	9 961

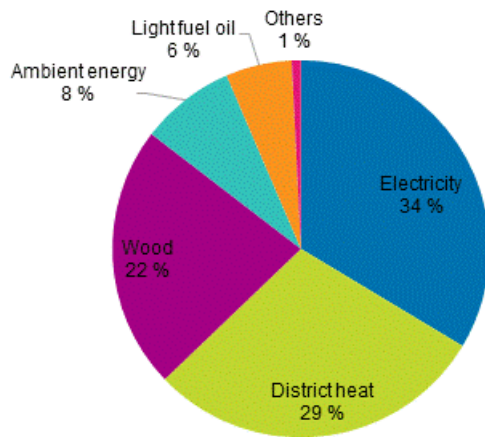
1) Includes liquid gas.

2) Ambient energy refers to energy extracted with heat pumps from the environment (ground, air or water) for space heating. Electricity spent by heat pumps in heating and cooling use is included in electricity consumption.

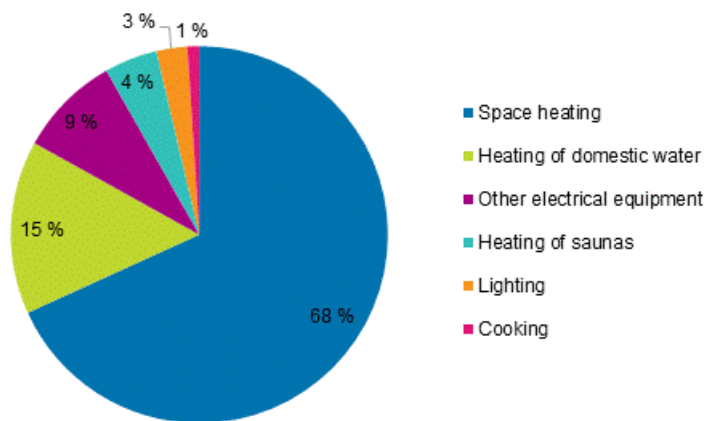
3) Electrical heating of spaces includes direct electrical heating, electric storage heating, additional heating and floor heating by electricity, electricity used by heat pumps and electricity consumed by heating systems and heat distribution equipment.

# Appendix figures

**Appendix figure 1. Energy consumption in households by energy source in 2016 (Corrected on 1 February 2018)**



**Appendix figure 2. Energy consumption in households by use in 2016 (Corrected on 1 February 2018)**



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Source: Energy consumption in households 2016, Statistics Finland