

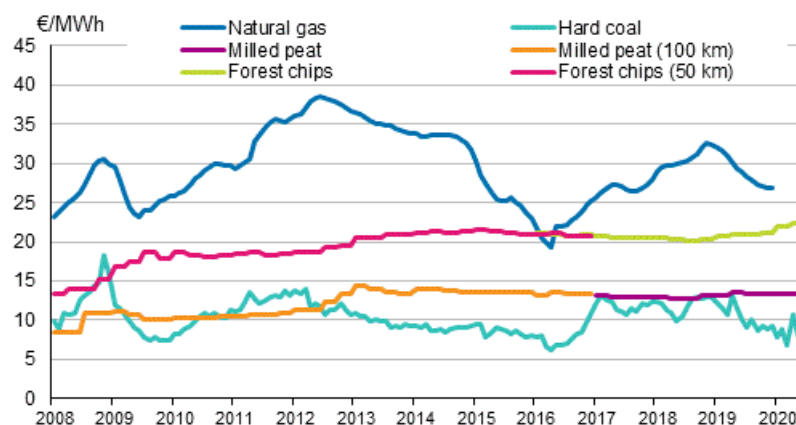
# Energy prices

2020, 2nd quarter

## Only price of forest chippings rose among fuels in the second quarter

Of the fuels used in energy production, only the price trend of forest chippings continued to rise in the second quarter. The increase in the prices of peat appears to have levelled off, as has the fall in the prices of imported fuels that started in 2019. The price of electricity on the Nord Pool market has fallen strongly. The area price for Finland also halved in April to May from the year before.

### Fuel prices in electricity production



After the March price collapse, the world market price of crude oil made an upturn in May, when oil producers reached an agreement on production restrictions. Production restrictions were used to respond to the fall in demand caused by the coronavirus. At least for the time being the price of crude oil seems to have stabilised at good USD 40 per barrel, which is two-thirds of the previous year's price level.

Changes in world market prices were visible in the consumer prices of oil products. Compared to one year earlier, the price of motor gasoline was 15 per cent lower in June and that of diesel oil 16 per cent lower. The corresponding drop in the price of light fuel oil was 22 per cent. Consumer prices were at their lowest in May.

The variation in the import price of hard coal has grown and no trend can be observed in the price in the early part of the year. Compared to the previous year, the price has fallen, however. In the second quarter of the year, the tax-free price of hard coal was nearly one fifth lower than one year previously.

The gas market in Finland was liberalised at the beginning of 2020. For the time being, data concerning the price development of natural gas are too uncertain to be published. Collection of data by customer group is starting and the first data are due to be published at the beginning of the coming year.

Among domestic fuels, the rise in the price of forest chippings continued in the second quarter of the current year. The price was seven per cent higher than one year ago. By contrast, the rise in the price of peat has halted and compared to one year ago, the price of milled peat is two per cent lower. The price of peat was on level with the previous quarter.

The system price of the Nord Pool electricity market derived from the sell and buy bids on the exchange market has continued to fall and was record low in June. The water situation has remained good and the demand for electricity is lower than usual. The available transmission capacity has not been sufficient to level off the prices of the market area. The area price for Finland has been higher than the system price for a long time and the difference has grown considerably during the current year. However, the area price for Finland has fallen. In April to May, the area price for Finland was one-half of the price in the year before. In June, the price was on level with the previous year.

In the second quarter, the fall in the market prices of electricity was also clearly visible in consumer prices. Consumer customers' prices had fallen slightly from the quarter twelve months back. These data derive from Statistics Finland's Price inquiry on electrical energy.

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# Appendix tables

**Appendix table 1. Energy taxes, precautionary stock fees and oil pollution fees**

| Date                                   | Fuels <sup>1)</sup>                    |                           |                               |                         |                |                          |             |       | Electricity                  |                               |               |             |         |   |
|--|--|---------------------------|-------------------------------|-------------------------|----------------|--------------------------|-------------|-------|------------------------------|-------------------------------|---------------|-------------|---------|---|
|  | Motor-gasoline, unleaded <sup>2)</sup> | Diesel fuel <sup>3)</sup> | Light fuel oil <sup>12)</sup> | Liquefied petroleum gas | Heavy fuel oil | Hard coal <sup>11)</sup> | Natural gas | Peat  | Consumption                  |                               | Production    |             |         |   |
|  |  |                           |                               |                         |                |                          |             |       | Electricity, I <sup>4)</sup> | Electricity, II <sup>5)</sup> | Nuclear power | Hydro power | Imports |   |
| c/l                                    |  |                           | c/kg                          |                         | €/t            | €/MWh                    |             | c/kWh |                              |                               |               |             |         |   |
| <b>Excise taxes <sup>10)</sup></b>     |  |                           |                               |                         |                |                          |             |       |                              |                               |               |             |         |   |
| 1.1.1990                               | 21,53                                  | 16,82                     | 0,34                          | -                       | 0,34           | 2,69                     | 0,17        | 0,34  | -                            | -                             | -             | -           | -       | - |
| 1.1.1991                               | 26,57                                  | 17,49                     | 0,35                          | -                       | 0,35           | 2,83                     | 0,18        | 0,35  | -                            | -                             | -             | -           | -       | - |
| 1.1.1992                               | 28,26                                  | 17,49                     | 0,35                          | -                       | 0,35           | 2,83                     | 0,18        | 0,35  | -                            | -                             | -             | -           | -       | - |
| 1.8.1992                               | 31,62                                  | 17,49                     | 0,35                          | -                       | 0,35           | 2,83                     | 0,18        | 0,35  | -                            | -                             | -             | -           | -       | - |
| 1.1.1993                               | 39,52                                  | 19,17                     | 1,41                          | -                       | 1,12           | 5,61                     | 0,35        | 0,70  | 0,25                         | 0,25                          | 0,10          | -           | 0,10    | - |
| 1.7.1993                               | 39,52                                  | 16,65                     | 1,41                          | -                       | 1,12           | 5,61                     | 0,35        | 0,70  | 0,25                         | 0,25                          | 0,10          | -           | 0,10    | - |
| 1.1.1994                               | 40,05                                  | 17,29                     | 2,05                          | -                       | 1,98           | 11,30                    | 1,09        | 0,35  | -                            | -                             | 0,35          | 0,03        | 0,22    | - |
| 1.1.1995                               | 45,12                                  | 27,50                     | 3,02                          | -                       | 3,12           | 19,53                    | 0,94        | 0,59  | -                            | -                             | 0,40          | 0,07        | 0,37    | - |
| 1.1.1996                               | 51,85                                  | 27,50                     | 3,02                          | -                       | 3,12           | 19,53                    | 0,94        | 0,59  | -                            | -                             | 0,40          | 0,07        | 0,37    | - |
| 1.1.1997                               | 51,85                                  | 27,50                     | 4,88                          | -                       | 3,72           | 28,42                    | 1,19        | 0,71  | 0,40                         | 0,40                          | -             | -           | -       | - |
| 1.4.1997                               | 51,85                                  | 27,50                     | 4,88                          | -                       | 3,72           | 28,42                    | 1,19        | 0,71  | 0,56                         | 0,24                          | -             | -           | -       | - |
| 1.1.1998                               | 55,22                                  | 30,02                     | 5,50                          | -                       | 4,34           | 33,40                    | 1,40        | 0,82  | 0,56                         | 0,34                          | -             | -           | -       | - |
| 1.9.1998                               | 55,22                                  | 30,02                     | 6,37                          | -                       | 5,40           | 41,37                    | 1,73        | 1,51  | 0,69                         | 0,42                          | -             | -           | -       | - |
| 1.1.2003                               | 58,08                                  | 31,59                     | 6,71                          | -                       | 5,68           | 43,52                    | 1,82        | 1,59  | 0,73                         | 0,44                          | -             | -           | -       | - |
| 1.7.2005                               | 58,08                                  | 31,59                     | 6,71                          | -                       | 5,68           | 43,52                    | 1,82        | -     | 0,73                         | 0,44                          | -             | -           | -       | - |
| 1.1.2007                               | 58,08                                  | 31,59                     | 6,71                          | -                       | 5,68           | 43,52                    | 1,82        | -     | 0,73                         | 0,22                          | -             | -           | -       | - |
| 1.1.2008                               | 62,02                                  | 36,05                     | 8,35                          | -                       | 6,42           | 49,32                    | 2,016       | -     | 0,87                         | 0,25                          | -             | -           | -       | - |
| 1.1.2011                               | 62,02                                  | 36,05                     | 15,70                         | -                       | 18,51          | 126,91                   | 8,94        | 1,90  | 1,69                         | 0,69                          | -             | -           | -       | - |
| 1.1.2012                               | 64,36                                  | 46,60                     | 15,70                         | -                       | 18,51          | 126,91                   | 8,940       | 1,90  | 1,69                         | 0,69                          | -             | -           | -       | - |
| 1.1.2013                               | 64,36                                  | 46,60                     | 15,99                         | -                       | 18,93          | 131,53                   | 11,38       | 4,90  | 1,69                         | 0,69                          | -             | -           | -       | - |
| 1.1.2014                               | 66,61                                  | 49,31                     | 15,99                         | -                       | 18,93          | 131,53                   | 11,38       | 4,90  | 1,89                         | 0,69                          | -             | -           | -       | - |
| 1.1.2015                               | 67,45                                  | 50,26                     | 18,39                         | -                       | 21,84          | 153,24                   | 15,36       | 3,40  | 2,24                         | 0,69                          | -             | -           | -       | - |
| 1.1.2016                               | 67,45                                  | 50,26                     | 21,05                         | 24,82                   | 25,08          | 177,36                   | 17,34       | 3,40  | 2,24                         | 0,69                          | -             | -           | -       | - |
| 1.3.2016                               | 67,45                                  | 50,26                     | 21,05                         | 24,82                   | 25,08          | 177,36                   | 17,34       | 1,90  | 2,24                         | 0,69                          | -             | -           | -       | - |
| 1.1.2017                               | 69,57                                  | 52,67                     | 22,52                         | 26,54                   | 26,83          | 189,84                   | 18,53       | 1,90  | 2,24                         | 0,69                          | -             | -           | -       | - |
| 1.1.2018                               | 69,57                                  | 52,67                     | 24,04                         | 28,32                   | 28,64          | 202,69                   | 19,78       | 1,90  | 2,24                         | 0,69                          | -             | -           | -       | - |
| 1.1.2019                               | 69,57                                  | 52,67                     | 24,53                         | 27,90                   | 27,23          | 200,58                   | 20,57       | 3,00  | 2,24                         | 0,69                          | -             | -           | -       | - |
| <b>Energy content tax<sup>8)</sup></b> |  |                           |                               |                         |                |                          |             |       |                              |                               |               |             |         |   |
| 1.1.2011                               | 50,36                                  | -                         | 7,70                          | -                       | 8,79           | 54,54                    | 3,00        | -     | -                            | -                             | -             | -           | -       | - |
| 1.1.2012                               | 50,36                                  | 30,70                     | 7,70                          | -                       | 8,79           | 54,54                    | 3,00        | -     | -                            | -                             | -             | -           | -       | - |
| 1.1.2013                               | 50,36                                  | 30,70                     | 6,65                          | -                       | 7,59           | 47,10                    | 4,45        | -     | -                            | -                             | -             | -           | -       | - |
| 1.1.2015                               | 51,20                                  | 31,65                     | 6,65                          | -                       | 7,59           | 47,10                    | 6,65        | -     | -                            | -                             | -             | -           | -       | - |
| 1.1.2016                               | 51,20                                  | 31,65                     | 6,65                          | 8,50                    | 7,59           | 47,10                    | 6,65        | -     | -                            | -                             | -             | -           | -       | - |
| 1.1.2017                               | 52,19                                  | 32,77                     | 7,05                          | 9,01                    | 8,05           | 49,93                    | 7,05        | -     | -                            | -                             | -             | -           | -       | - |
| 1.1.2018                               | 52,19                                  | 32,77                     | 7,50                          | 9,58                    | 8,56           | 53,13                    | 7,50        | -     | -                            | -                             | -             | -           | -       | - |
| 1.1.2019                               | 52,19                                  | 32,77                     | 7,63                          | 9,81                    | 8,56           | 52,77                    | 7,63        | -     | -                            | -                             | -             | -           | -       | - |
| <b>Carbon dioxide tax<sup>9)</sup></b> |  |                           |                               |                         |                |                          |             |       |                              |                               |               |             |         |   |
| 1.1.2011                               | 11,66                                  | -                         | 8,00                          | -                       | 9,72           | 72,37                    | 5,94        | -     | -                            | -                             | -             | -           | -       | - |
| 1.1.2012                               | 14,00                                  | 15,90                     | 8,00                          | -                       | 9,72           | 72,37                    | 5,94        | -     | -                            | -                             | -             | -           | -       | - |

| Date                                   | Fuels <sup>1)</sup>                    |                           |                               |                         |                |                          |             |       |                              | Electricity                   |               |             |         |  |
|--|--|---------------------------|-------------------------------|-------------------------|----------------|--------------------------|-------------|-------|------------------------------|-------------------------------|---------------|-------------|---------|--|
|  |  |                           |                               |                         |                |                          |             |       |                              | Consumption                   |               | Production  |         |  |
|  | Motor-gasoline, unleaded <sup>2)</sup> | Diesel fuel <sup>3)</sup> | Light fuel oil <sup>12)</sup> | Liquefied petroleum gas | Heavy fuel oil | Hard coal <sup>11)</sup> | Natural gas | Peat  | Electricity, I <sup>4)</sup> | Electricity, II <sup>5)</sup> | Nuclear power | Hydro power | Imports |  |
| c/l                                    |  |                           | c/kg                          |                         |                | €/t                      | €/MWh       | c/kWh |                              |                               |               |             |         |  |
| 1.1.2013                               | 14,00                                  | 15,90                     | 9,34                          | -                       | 11,34          | 84,43                    | 6,93        | -     | -                            | -                             | -             | -           | -       |  |
| 1.1.2014                               | 16,25                                  | 18,61                     | 9,34                          | -                       | 11,34          | 84,43                    | 6,93        | -     | -                            | -                             | -             | -           | -       |  |
| 1.1.2015                               | 16,25                                  | 18,61                     | 11,74                         | -                       | 14,25          | 106,14                   | 8,71        | -     | -                            | -                             | -             | -           | -       |  |
| 1.1.2016                               | 16,25                                  | 18,61                     | 14,40                         | 16,32                   | 17,49          | 130,26                   | 10,69       | -     | -                            | -                             | -             | -           | -       |  |
| 1.1.2017                               | 17,38                                  | 19,90                     | 15,47                         | 17,53                   | 18,78          | 139,91                   | 11,48       | -     | -                            | -                             | -             | -           | -       |  |
| 1.1.2018                               | 17,38                                  | 19,90                     | 16,54                         | 18,74                   | 20,08          | 149,56                   | 12,28       | -     | -                            | -                             | -             | -           | -       |  |
| 1.1.2019                               | 17,38                                  | 19,90                     | 16,90                         | 18,09                   | 18,67          | 147,81                   | 12,94       | -     | -                            | -                             | -             | -           | -       |  |
| <b>Energy tax<sup>7)</sup></b>         |  |                           |                               |                         |                |                          |             |       |                              |                               |               |             |         |  |
| 1.1.2011                               | -                                      | -                         | -                             | -                       | -              | -                        | -           | 1,90  | 1,69                         | 0,69                          | -             | -           | -       |  |
| 1.1.2013                               | -                                      | -                         | -                             | -                       | -              | -                        | -           | 4,90  | 1,69                         | 0,69                          | -             | -           | -       |  |
| 1.1.2014                               | -                                      | -                         | -                             | -                       | -              | -                        | -           | 4,90  | 1,89                         | 0,69                          | -             | -           | -       |  |
| 1.1.2015                               | -                                      | -                         | -                             | -                       | -              | -                        | -           | 3,40  | 2,24                         | 0,69                          | -             | -           | -       |  |
| 1.1.2016                               | -                                      | -                         | -                             | -                       | -              | -                        | -           | 3,40  | 2,24                         | 0,69                          | -             | -           | -       |  |
| 1.3.2016                               | -                                      | -                         | -                             | -                       | -              | -                        | -           | 1,90  | 2,24                         | 0,69                          | -             | -           | -       |  |
| 1.1.2019                               | -                                      | -                         | -                             | -                       | -              | -                        | -           | 3,00  | 2,24                         | 0,69                          | -             | -           | -       |  |
| <b>Strategic stockpile fees</b>        |  |                           |                               |                         |                |                          |             |       |                              |                               |               |             |         |  |
| 1.7.1984                               | 0,72                                   | 0,39                      | 0,39                          | -                       | 0,32           | 1,48                     | -           | -     | -                            | -                             | -             | -           | -       |  |
| 1.1.1997                               | 0,68                                   | 0,35                      | 0,35                          | -                       | 0,28           | 1,18                     | 0,084       | -     | 0,013                        | 0,013                         | -             | -           | -       |  |
| 1.1.2016                               | 0,68                                   | 0,35                      | 0,35                          | 0,11                    | 0,28           | 1,18                     | 0,084       | -     | 0,013                        | 0,013                         | -             | -           | -       |  |
| <b>Oil pollution fees<sup>6)</sup></b> |  |                           |                               |                         |                |                          |             |       |                              |                               |               |             |         |  |
| 1.1.1990                               | 0,28                                   | 0,031                     | 0,031                         | -                       | 0,037          | -                        | -           | -     | -                            | -                             | -             | -           | -       |  |
| 1.1.2005                               | 0,038                                  | 0,042                     | 0,042                         | -                       | 0,050          | -                        | -           | -     | -                            | -                             | -             | -           | -       |  |
| 1.1.2010                               | 0,113                                  | 0,126                     | 0,126                         | -                       | 0,150          | -                        | -           | -     | -                            | -                             | -             | -           | -       |  |
| 1.3.2020                               | 0,000                                  | 0,000                     | 0,000                         | -                       | 0,000          | -                        | -           | -     | -                            | -                             | -             | -           | -       |  |

1) Fuels in electricity production tax-exempt since 1 January 1997.

2) Reformulated, since 1 January 1993, also sulphur-free since 1 September 2004. Fossil fuel.

3) Sulphur-free, sulphur content < 50 ppm since 1 July 1993, sulphur content < 10 ppm since 1 September 2004. Fossil fuel.

4) Tax class I: others

5) Tax class II: industry and professional greenhouses

6) Collection of oil pollution fees is discontinued until the capital of the oil protection fund falls below 5 million euro.

7) Energy tax included in excise taxes.

8) Energy content tax included in excise taxes.

9) Carbon dioxide tax included in excise taxes.

10) Excise taxes contain energy content tax, carbon dioxide tax, and energy tax.

11) Excise taxes for hard coal is in the heat production. In CHP use excise tax is lower.

12) Fossil fuel. Sulphur-free.

## Appendix table 2. Energy prices in heat production in June 2020

| Energy source <sup>3)</sup>         | Price €/MWh <sup>1)</sup> | Annual change-% |
|-------------------------------------|---------------------------|-----------------|
| Hard coal (VAT 0%) <sup>2)</sup>    | 37,26                     | -5,4            |
| Natural gas (VAT 0%) <sup>5)</sup>  | .                         | .               |
| Forest chips (VAT 0%) <sup>4)</sup> | 22,31                     | 7,0             |
| Milled peat (VAT 0%)                | 16,29                     | -1,6            |

1) Inclusive of excise duties.

2) The price is preliminary.

3) Sources: Energy Authority, Finnish Customs, FOEX Indexes Ltd, The Bioenergy Association of Finland, Statistics Finland.

4) Price of forest chippings and milled peat, average for 2nd quarter.

5) Publication of natural gas price discontinued for time being.

## Appendix table 3. Consumer prices of heating energy in June 2020

| Energy source <sup>2)</sup>   | Price €/MWh <sup>1)</sup> | Annual change-% |
|---|---------------------------|-----------------|
| Light fuel (VAT 24%)  | 73,90                     | -21,5           |
| Household electricity, L2 (VAT 24%)   | 137,40                    | -1,7            |
| Wood pellet (VAT 24%) <sup>4)1)</sup>   | .                         | .               |
| District heat, terraced house / low-rise block of flats (VAT 24%) <sup>1)</sup> | 82,51                     | 0,8             |

1) The prices do not take into account energy conversion losses.

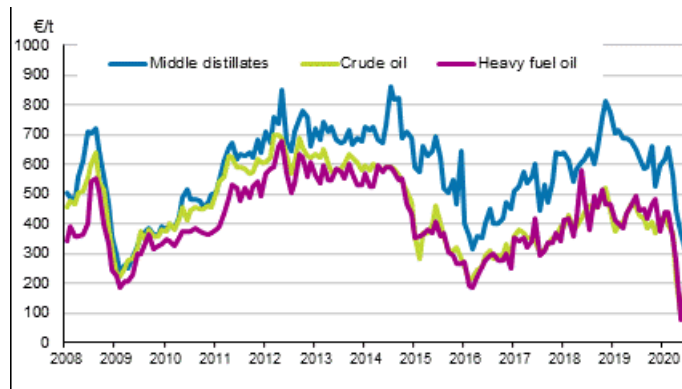
2) Sources: Finnish Energy, Energy Authority, Statistics Finland

3) The price of district heat is from January 2020.

4) Publication of wood pellet price is discontinued for time being.

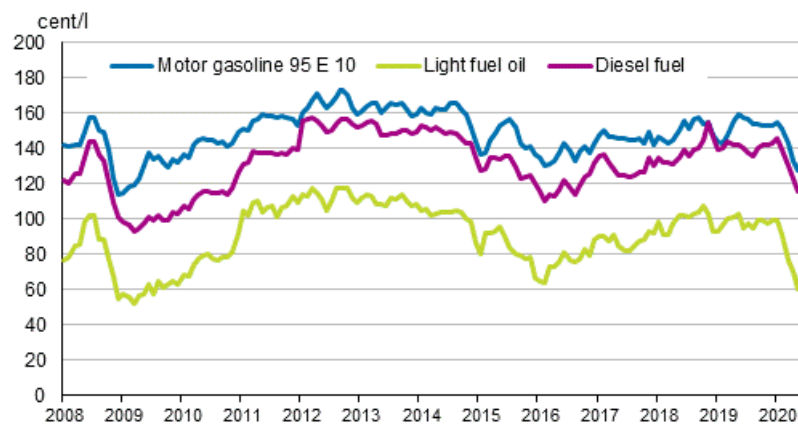
# Appendix figures

**Appendix figure 1. Import prices of oil**



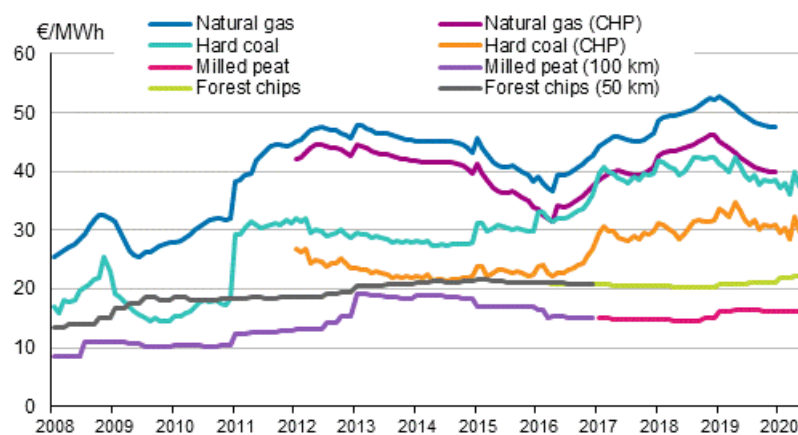
Source: Finnish Customs

**Appendix figure 2. Consumer prices of principal oil products**



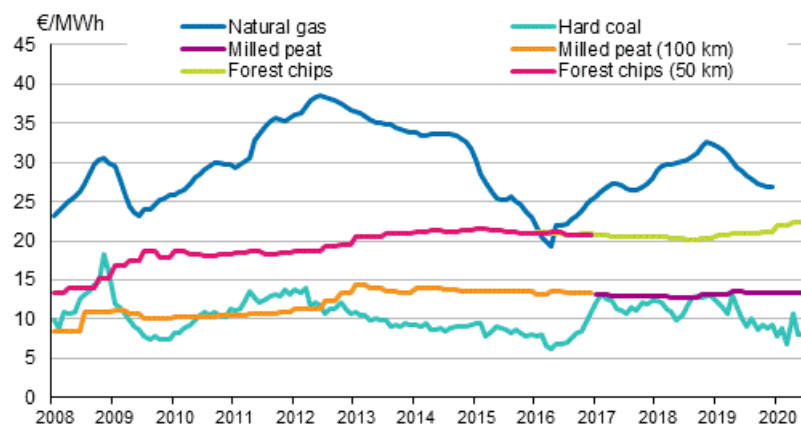
Source: Finnish Petroleum and Biofuels Association (-11/2018), Statistics Finland (12/2018-).

**Appendix figure 3. Fuel prices in heat production**



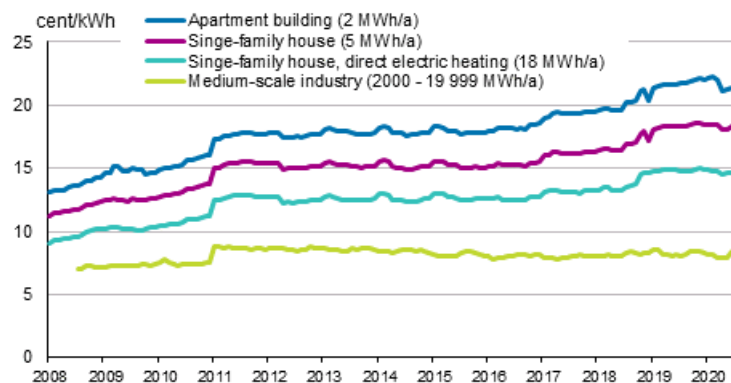
The prices include excise duties (VAT 0%). The energy content tax on natural gas and hard coal used in combined heat and power production has been reduced by € 7,63 per MWh from the beginning of 2019. Sources: Finnish Customs, Energy Authority, The Bioenergy Association of Finland, Statistics Finland, FOEX Indexes Ltd. Energy Authority's latest published natural gas price December 2019.

### Appendix figure 4. Fuel prices in electricity production



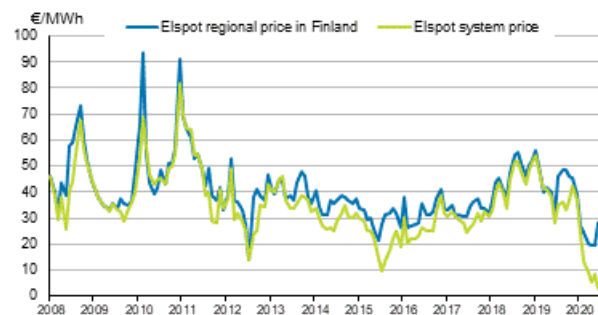
The fuels of electricity production are exclusive of tax. Sources: Finnish Customs, Energy Authority, The Bioenergy Association of Finland, Statistics Finland, FOEX Indexes Ltd. Energy Authority's latest published natural gas price December 2019.

### Appendix figure 5. Price of electricity by type of consumer



The prices include electrical energy, transmission fee and taxes. Source: Energy Authority, Statistics Finland.

### Appendix figure 6. Average monthly spot prices at the Nord Pool Spot power exchange



Source: Nord Pool Spot



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Source: Statistics Finland, Energy prices