

# **2020 EED Annual Report**

**28 April 2020**

**Report to the European Commission pursuant to Article 24 of the Energy Efficiency Directive  
(2012/27/EU)**

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## 1 Introduction

The 2020 EED Annual Report is Finland's eighth annual report pursuant to the Energy Efficiency Directive (2012/27/EU). In line with the reporting requirements under the Energy Efficiency Directive, this Annual Report presents statistics (indicators) from 2018 in accordance with Annex XIV to the Directive, important new measures taken in 2019 which contribute towards attainment of overall national energy efficiency targets, the energy savings achieved by the national government pursuant to Article 5 of the Directive in 2019, energy savings which have been achieved through the measures approved under Article 7(9) and implemented in 2018, and an assessment of the cumulative savings under Article 7 that have to be achieved by the end of 2020.

Finland's national cumulative energy savings target for 2014-2020 under Article 7 is 49 TWh<sub>cum</sub>. The impact on energy savings of the energy saving measures implemented in 2018 is around 6.3 TWh/year. At the end of 2020, the estimated cumulative impact on energy savings of the measures implemented between 2014 and 2020 will be 91.4 TWh<sub>cum</sub>.

Finland's central government energy savings target for 2014-2020 is 8,225 MWh. Years

The energy savings achieved through measures implemented between 2014 and 2019 and in force in 2020 amount to 16,581 MWh. 15,600 MWh of those savings will have a long-lasting impact and still be in force up until at least 2030.

Measures in 2019 were mainly focused on the amendments to the Directives (EPBD and EED) that had entered into force in 2018, and the national implementation of the obligations arising under the new Energy Union Governance Regulation. In autumn 2019, Finland also started a broad-based project to draw up roadmaps to reduce carbon in different sectors.

For indicators, the Energy Efficiency Directive requires the submission of data for 2018. In those sectors in which energy consumption remained stable or increased in comparison to the previous year, the reasons for the changes have been analysed. Indicators have been presented numerically for the years 2017 and 2018 and graphically for the period from 2000 to 2018.

## 2 Finnish indicative national energy efficiency target for 2020

Finland's indicative national energy efficiency target for 2020 is a final energy consumption level of 310 TWh (26.6 Mtoe). This corresponds to a level of primary energy consumption of 417 TWh (35.9 Mtoe). The GDP value for 2020 used in the various scenarios is €159 billion (€134.7 billion at 2000 prices in 2010). The national targets, which are based on the Energy and Climate Strategy drawn up in 2008 and updated in 2013, were notified to the Commission in the 2013 EED Annual Report. The targets for 2020 were unaffected by the newest Energy and Climate Strategy, drawn up in 2016.

According to data from Eurostat, Finland's primary energy consumption in 2018 was 384 TWh (33.0 Mtoe) and total final energy consumption was 300 TWh (25.8 Mtoe).

### 3 Indicators and statistics on combined heat and power (CHP) set out in national reports

#### Indicators

Table 1 shows the indicators for 2017 and 2018 required to be set out in the EED Annual Report. On the basis of a comparison of those two consecutive years, no far-reaching conclusions can be made with regard to changes in energy efficiency. The situation in Finland is strongly influenced by the weather in a particular year (demand for heating) and the production volumes of energy-intensive industries.

**Table 1. Energy consumption statistics for 2017 and 2018<sup>1</sup>**

	Indicator	2017	2018	Unit
1	Total primary energy consumption	1,343,384	1,381,118	TJ
2	Total final energy consumption	1,057,849	1,081,744	TJ
3	Final energy consumption — industry	508,316	520,090	TJ
4	Final energy consumption — transport	175,646	177,582	TJ
5	Final energy consumption — households <sup>2</sup>	241,233	238,275	TJ
6	Final energy consumption — services <sup>2</sup>	123,929	128,871	TJ
7	Gross value added — industry <sup>3</sup>	49,917	50,012	M€
8	Gross value added — services <sup>3</sup>	103,560	105,815	M€
9	Disposable income of households	120,160	123,711	M€
10	Gross domestic product (GDP) <sup>4</sup>	199,990	203,486	M€
11	Electricity generation from thermal power generation	47,508	50,752	GWh
12	Electricity	21,467	22,612	GWh

<sup>1</sup> The indicators shown in the table in italics are mentioned in the guidance on reporting for Commission Annual Reports (2013) [http://ec.europa.eu/energy/sites/ener/files/documents/20131106\\_swd\\_guidance\\_neeaps.pdf](http://ec.europa.eu/energy/sites/ener/files/documents/20131106_swd_guidance_neeaps.pdf), but are not required under point (a), Part 1 of Annex XIV on reporting under the Directive.

<sup>2</sup> Eurostat data includes free energy from heat pumps from 2017 onwards.

<sup>3</sup>At constant 2005 prices.

<sup>4</sup>At constant 2010 prices.

	generation from combined heat and power			
13	Heat generation from thermal power generation	48,267	47,434	GWh
14	Heat generation from combined heat and power plants	33,197	31,386	GWh
15	Fuel input for thermal power generation	559,301	579,387	TJ
16	Total passenger kilometres (pkm) <sup>5</sup>	71,200	71,600	millions of pkm
17	Total tonne-kilometres (tkm) <sup>5</sup>	39,229	40,169	millions of tonne-kilometres
18	Total population	5,503,297	5,513,130	persons
19	<i>Average disposable income of households</i>	44,835	45,726	€/household
20	<i>Total number of households</i>	2,680,077	2,705,499	Number
21	<i>Fuel inputs for combined heat and power plants</i>	394,370	400,336	TJ
22	Losses in energy transfer and distribution (all fuels)	8,320	7,548	GWh
23	Separate production of district heating	54,252	57,771	TJ
24	Fuel inputs for the separate production of district heating	63,390	66,698	TJ

The data in the annual report for 2020 comes primarily from Eurostat, which the Commission has mentioned in the optional Excel spreadsheet in the EED annual report. These data have been supplemented with data from Statistics Finland in cases where no Eurostat data were available (indicators Nos 16, 17, 19, 20 and 21). Up until 2016, only data from Statistics Finland was used in annual reports.

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<sup>5</sup>Inland road, rail and vessel traffic.

The indicator data in the previous table which, under Part 1 of Annex XIV to the Directive, are to be reported annually, are shown as a time-series in Annex 1 to the annual reports for 2000 to 2018. The data have been presented both year by year, in accordance with the Directive ('EED indicators'), and in the form of a three-year rolling average.

### Analysis of changes in energy consumption

For annual reporting purposes, the Energy Efficiency Directive requires an analysis and assessment of changes in final energy consumption in sectors (industry, transport, households, services) in which this consumption has remained stable or has grown.

Primary energy consumption increased by 2.8% and total final energy consumption by 2.3% in 2018. Final energy consumption by households decreased by 1.2%. In 2018, energy consumption in industry increased by 2.3%, in transport by 1.1% and in the service sector by 4.0%.

Energy consumption in Finland is strongly influenced by annual fluctuations in heating needs. The difference between a cold and a hot year alone can result in a more than 5% change in Finland's final energy consumption. The year 2018 was slightly warmer than 2017 and the resident-weighted heating need was 3.3% lower than the previous year.

### Industry

Fuel consumption varies from year to year, depending on various factors. Fuel use is influenced by fuel and emission allowance prices, supply, possible tax changes, development of the industrial sector, structural factors etc.

Industrial production volume indices grew 3.5% in 2018 and gross value added was 0.2% greater than in 2017.

### Transport

The growth in energy consumption in the transport sector can be explained by the increase in goods delivered. In freight transport, the number of tonne-kilometres in 2018 increased by 2.4% and in passenger transport the number of passenger-kilometres increased by 0.6%. The number of vehicle-kilometres driven by passenger vehicles increased by 0.3% from 2017, while the increase for lorries was 1.2%. As elsewhere in Europe, the specific energy consumption of passenger cars decreased in Finland in the 2000s, but this positive trend slowed in the period 2016-2019, with diesel consumption even starting to increase. No corresponding improvement in energy efficiency ever took place for heavy machinery. In Finland, as elsewhere in Europe, there has been an increase in the total masses and powers of lorries, but consumption (l/100 km) has on average remained at the same level throughout the 2000s.

### Services

Gross value added in the service sector increased by 2.2% and the surface area of buildings in the sector increased by 1.3% on the previous year. The likely reason for the increase in energy use by the sector is a structural change towards services that consume more energy, such as servers and machine rooms, as well as the increased need for cooling due to it being an exceptionally warm year.

### Statistics on combined heat and power (CHP) and district heating and cooling

Article 24 of the Energy Efficiency Directive requires Member States to provide, by the end of April, statistics on the year (x-2) (x = the current year) on national electricity and heat production from high and low efficiency cogeneration in relation to total heat and electricity production. The Directive also requires Member States to provide statistics on district heating and cooling.

The Finnish national statistical authority (Statistics Finland) will provide statistics on 2018 to Eurostat via the eDAMIS portal.



#### 4 Significant measures taken in the previous year

Measures in 2019 were mainly focused on the amendments to the Directives (EPBD and EED) that had entered into force in 2018, and the national implementation of the obligations arising under the new Energy Union Governance Regulation.

Finland submitted its national energy and climate plan (NECP) to the Commission on 20 December 2019<sup>6</sup>. The measures in the plan are based on the 2016 National Energy and Climate Strategy and the 2017 medium-term climate plan. In accordance with the government programme, a roadmap project<sup>7</sup> was launched in autumn 2019 with the objective of drawing up sector-specific comprehensive roadmaps towards low carbon operations, in cooperation with stakeholders in various sectors. Finland's objective is to be carbon-neutral by 2035 and carbon-negative soon after that. Funding for the measure has already been increased. A climate-related increase of €20 million was allocated to public transport funding as a rate increase starting in 2020.

Measures under the EPBD are to be included in the 'Long-term building renovation strategy'. This broad-based renovation strategy, drawn up in cooperation with stakeholders in the sector and covering the building stock until 2050, was sent to the European Commission on 10 March 2020<sup>8</sup>. Another important element relating to implementation was the government's proposals for legislation on electric car recharging points and recharging facilities in buildings and on building automation and control systems. The Decree on energy subsidies for residential buildings (asetus asuinrakennusten energia-avustuksista) was also drafted in 2019. Under this Decree, a total of €100 million in subsidies will be granted in the period 2020-2022 for renovations to improve the energy efficiency of residential buildings<sup>9</sup>.

The most significant actions in 2019 in relation to the EED came from the Energy Efficiency Working Group appointed by the Ministry of Economic Affairs and Employment on 5 November 2018. The Working Group's task was to propose measures to enable Finland to achieve the revised binding energy saving target set under Article 7 EED in the period 2021-2030. Almost 100 experts took part in the work of the Energy Efficiency working group. On the basis of proposals by expert groups from industry, consumers, services and transport, key measures for each sector were identified in the form of 53 'measure maps'. These will form the basis of Finland's efforts to improve energy efficiency in the coming years. The Working Group's final report<sup>10</sup> was presented to the Minister for Economic Affairs on 4 October 2019. A Government Proposal for amendments concerning remotely readable energy and water meters and water invoicing based on consumption in residential buildings was also drawn up in 2019.

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<sup>6</sup> [Finland's Integrated Energy and Climate Plan \(NECP\)](#)

<sup>7</sup> [Vähähiiliset tiekartat 2035 \(Low-carbon roadmaps 2035\)](#)

<sup>8</sup> [Pitkän aikavälin korjausrakentamisen strategia 2020-2050 \(Long-term building renovation strategy 2020-2050\)](#)

<sup>9</sup> [Asuinrakennusten energia-avustukset 2020-2022 \(Energy subsidies for residential buildings 2020-2022\)](#)

<sup>10</sup> [Energy Efficiency Working Group of the Ministry of Economic Affairs and Employment, Report of the Working Group](#)

## 5 Central government buildings (Article 5)

In implementing Article 5, Finland chose to perform the alternative actions under Article 6. The notice of implementation<sup>11</sup> provided to the Commission on 18 December 2013 defined the central government building stock for the purposes of the restrictions of Article 5 of the Directive (884,000 m<sup>2</sup>) and the energy savings corresponding to a rate of building renovation of 3% of surface area annually during the 2014-2020 period (8,225 MWh), as well as the eight energy efficiency measures which will bring those energy savings about.

Table 2. Energy savings target under Article 5 of the Energy Efficiency Directive and the energy savings achieved for the 2014-2020 period

Year	Savings target	Long-term saving achieved, MWh	Short-term saving achieved, MWh	Current saving, total, MWh
2014	1,285	878	7,948	8,826
2015	2,531	3,358	10,513	13,871
2016	3,741	6,331	5,353	11,684
2017	4,913	9,534	3,706	13,240
2018	6,051	12,844	1,298	14,142
2019	7,154	14,960	1,360	16,320
2020	8,225	15,600	(981)	16,581

The long-term impact of the measures implemented in 2019 (1,281 MWh) on energy savings results from action 3 (403 MWh), which is referred to in the notice on the implementation of Article 5, and from action 6 (878 MWh). In 2019, the above-mentioned long-term energy saving impact was achieved only in the Senate's real estate portfolio and the resulting improvement in space efficiency was reflected in a reduced need for heating energy in these premises. For actions with a lasting impact, the energy saving is calculated in full for the years following the implementation year. For the implementation year, half of the impact of energy savings is taken into account.

The short-term impact of savings generated by measures implemented in 2019 (981 MWh) results from actions 1 and 4 referred to in the notice of implementation of Article 5. Actions 2, 5, 7 and 8 were not implemented in 2019. Without any new actions, the short-term impact of energy saving in 2020 is currently 981 MWh. The short-term impact of the savings is calculated in full for the implementation year and the following year.

The combined impact of the measures implemented in the years 2014-2019 is 16,320 MWh in 2019. Without any new actions, the combined impact on 2020 would be 16,581 MWh. Over six years, the overall energy saving target under Article 5 (8,225 MWh) has more than doubled, with savings achieved above the target of 8,095 MWh.

<sup>11</sup> [http://ec.europa.eu/energy/sites/ener/files/documents/2013\\_fi\\_eeed\\_article5\\_fi.pdf](http://ec.europa.eu/energy/sites/ener/files/documents/2013_fi_eeed_article5_fi.pdf)

## 6 Energy savings (Article 7)

The Finnish authorities chose so-called alternative policy measures in order to implement Article 7 of the Energy Efficiency Directive. Finland's national cumulative energy savings target under Article 7 is 49 TWh<sub>cum</sub>.

When following up on implementation of the savings target under Article 7 of the Energy Efficiency Directive, energy savings resulting from energy saving measures implemented during the 2014-2020 period can be taken into account. The annual EED report for 2017 was enclosed as Annex 1 to the national energy efficiency plan (NEEAP-4)<sup>12</sup> for 2017. Annex 3 (enclosed) provides detailed descriptions of eight energy efficiency measures notified for the purpose of implementing Article 7 and the procedure for calculating cumulative energy savings.

Pursuant to the Directive, the new annual savings impact of the previous year and the estimated cumulative savings impact under the Directive for the reporting period are presented annually, broken down into two notified periods (2014-2016 and 2017-2020) and the total for the whole 2014-2020 period. A new annual energy saving must be reported from the year (x-2), in which x is the current year.

The annual impact on energy savings of new measures implemented in 2018 and an updated assessment of the cumulative impact on savings under Article 7 for the 2014-2020 period and for the 2014-2016 and 2017-2020 periods are presented in Table 3. Annex 2 shows the new saving under Article 7 for the period 2014-2018, the current annual saving at the end of the period 2015-2018 and the corresponding cumulative energy saving in 2020. The cumulative savings impact in 2020 of measures implemented in the period 2014-2018 is clearly more than one-and-a-half times the cumulative target for 2020 set for Finland in the period 2014-2020 under Article 7.

Table 3. National energy efficiency actions under the National Energy Efficiency Programme (KETO) and their savings impact, and the cumulative impacts on energy savings (TWh<sub>cum</sub>) in 2020 for different periods.

Energy efficiency actions	2018 <sup>13</sup> GWh/a	Period 1 <sup>14</sup> 2014-2016 TWh <sub>cum</sub>	Period 2 <sup>15</sup> 2017-2020 TWh <sub>cum</sub>	TOTAL <sup>16</sup> 2014-2020 TWh <sub>cum</sub>
KETO-1 Energy performance contracting activities	1,089	22.37	11.91	34.27
KETO-2 Taxation of transport fuels /road transport	3,014	9.15	10.59	19.74
KETO-3 Energy audit activities	26	1.32	0.36	1.68
KETO-4 Energy performance	1,110	3.43	4.46	7.89

<sup>12</sup> [https://ec.europa.eu/energy/sites/ener/files/documents/fi\\_neeap\\_2017\\_fi.pdf](https://ec.europa.eu/energy/sites/ener/files/documents/fi_neeap_2017_fi.pdf)

<sup>13</sup> Most recent annual savings impact of energy-efficiency measures carried out in 2018.

<sup>14</sup> Cumulative savings impact of measures carried out in Period 1 (2014–2016) in 2020.

<sup>15</sup> Estimated cumulative impact on energy savings of the measures implemented in Period 2 (2017-2020) in 2020

<sup>16</sup> Estimated cumulative impact on energy savings in Period 2 (2014-2020) in 2020

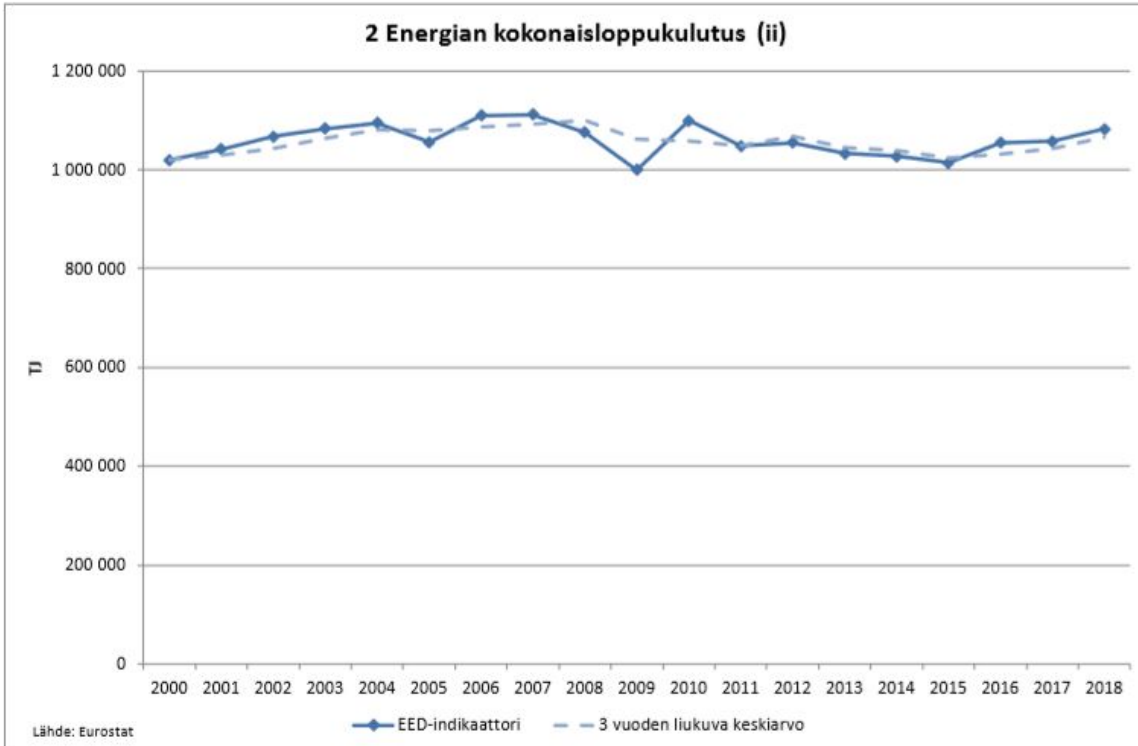
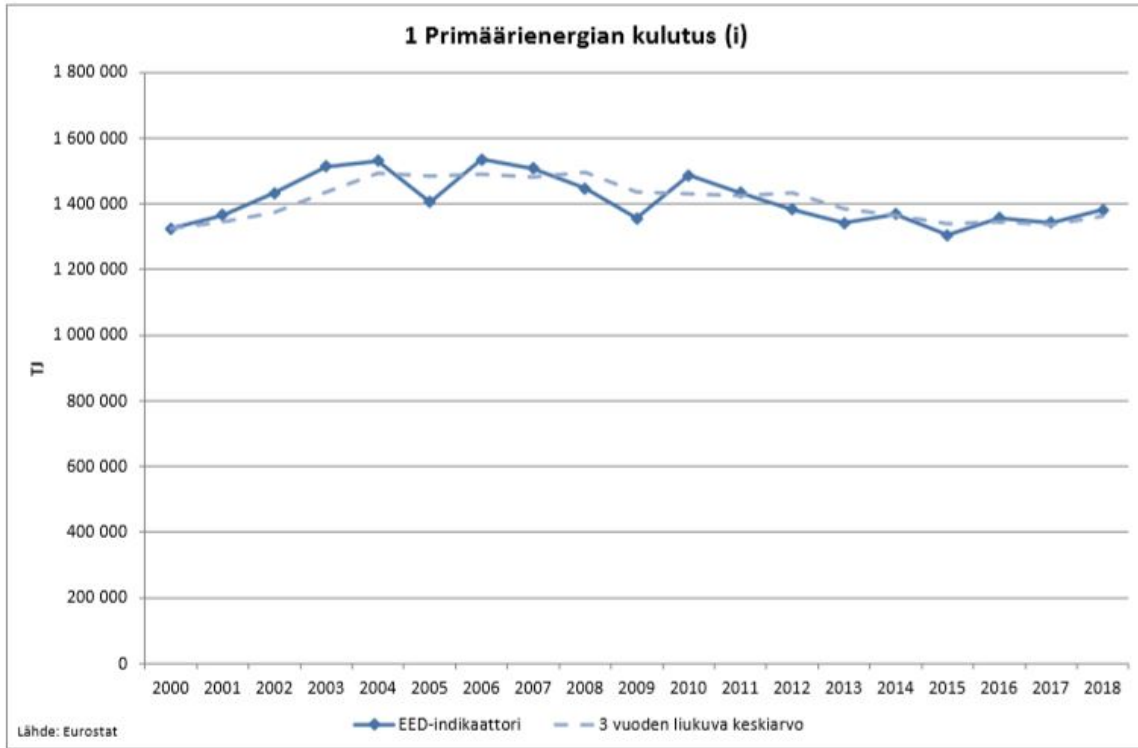
contracting activities / Energy services and Höyla customers				
KETO-5 Heat pump heaters of one-family and terraced houses	335	8.06	2.62	10.67
KETO-6 Investments in a heating plant	128	1.25	0.85	2.10
KETO-7 Energy efficiency rules for renovated buildings and start-up grants for deep renovations	238	3.94	1.93	5.87
KETO-8 Investments in a heating plant	384	6.18	3.01	9.19
KETO 1 - KETO 8, total	6,324	55.7	35.7	91.4 <sup>17</sup>

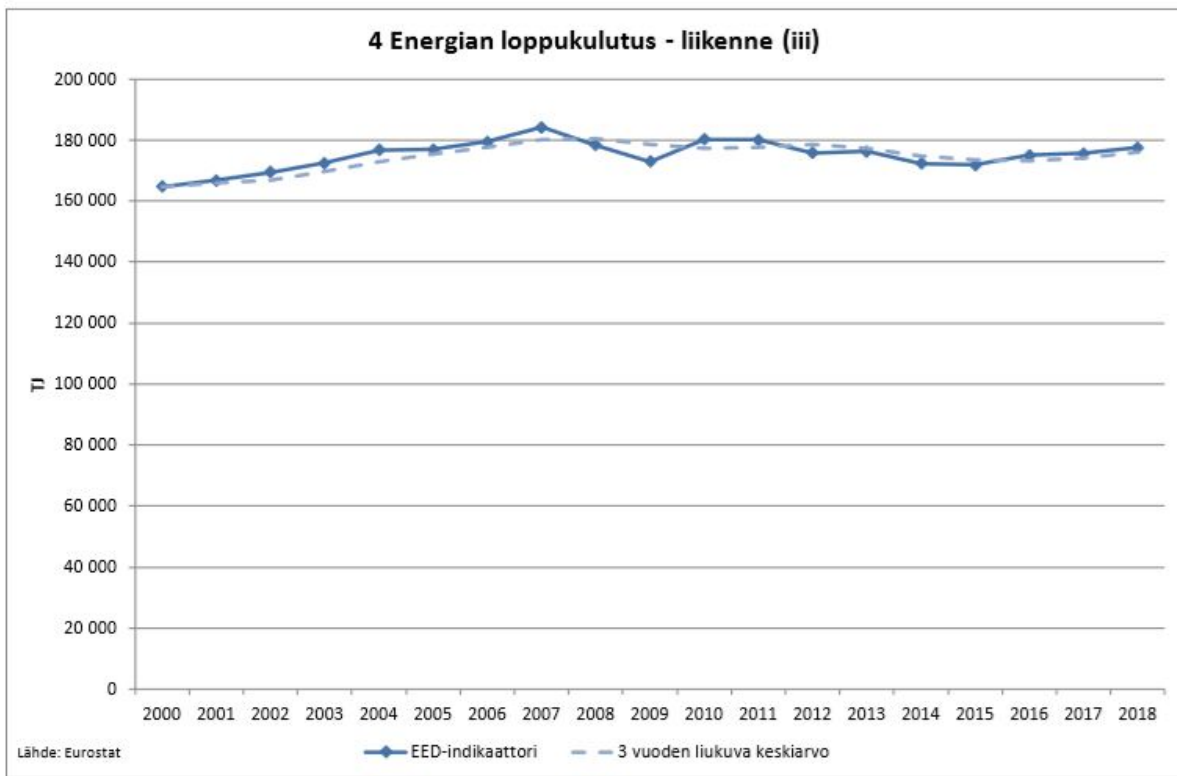
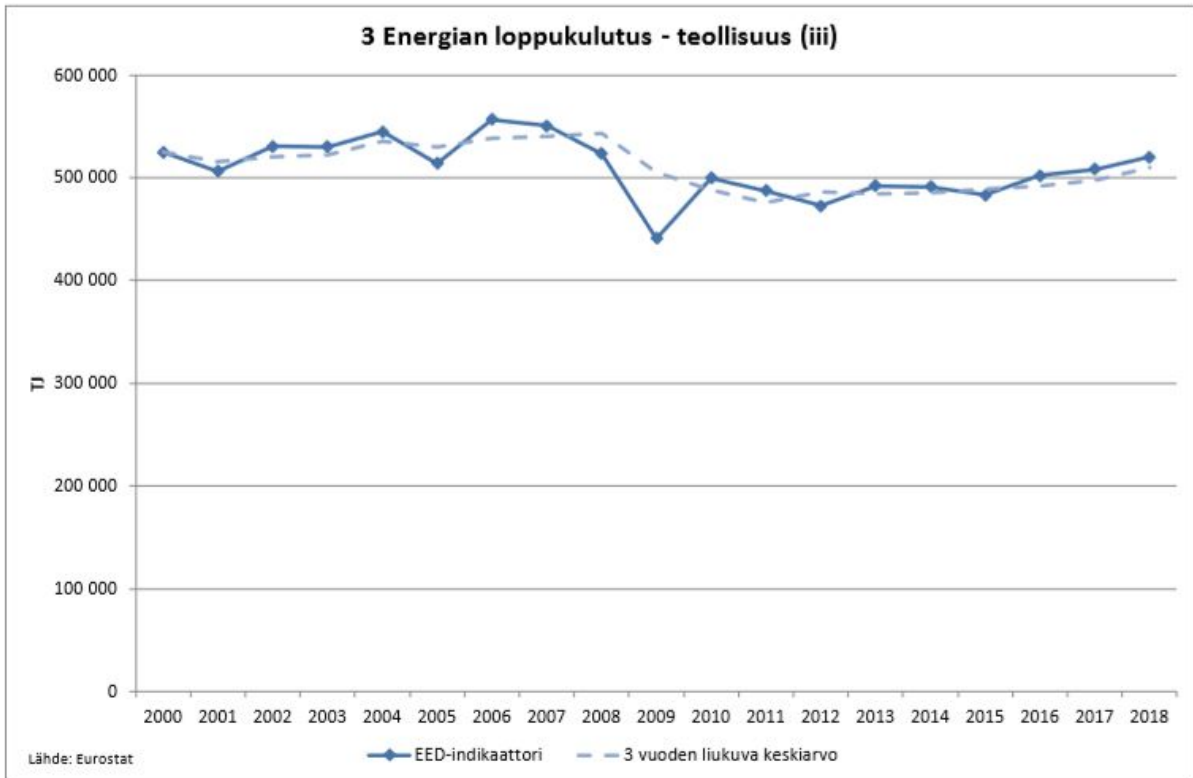
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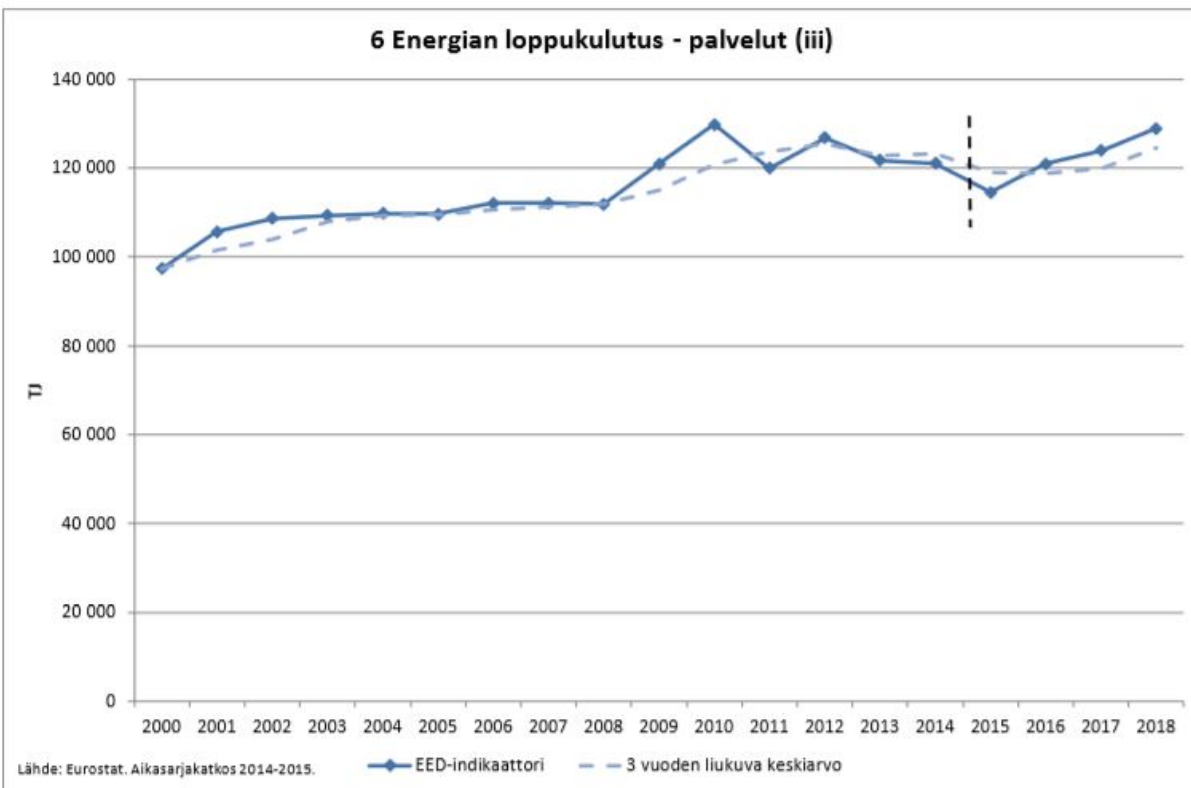
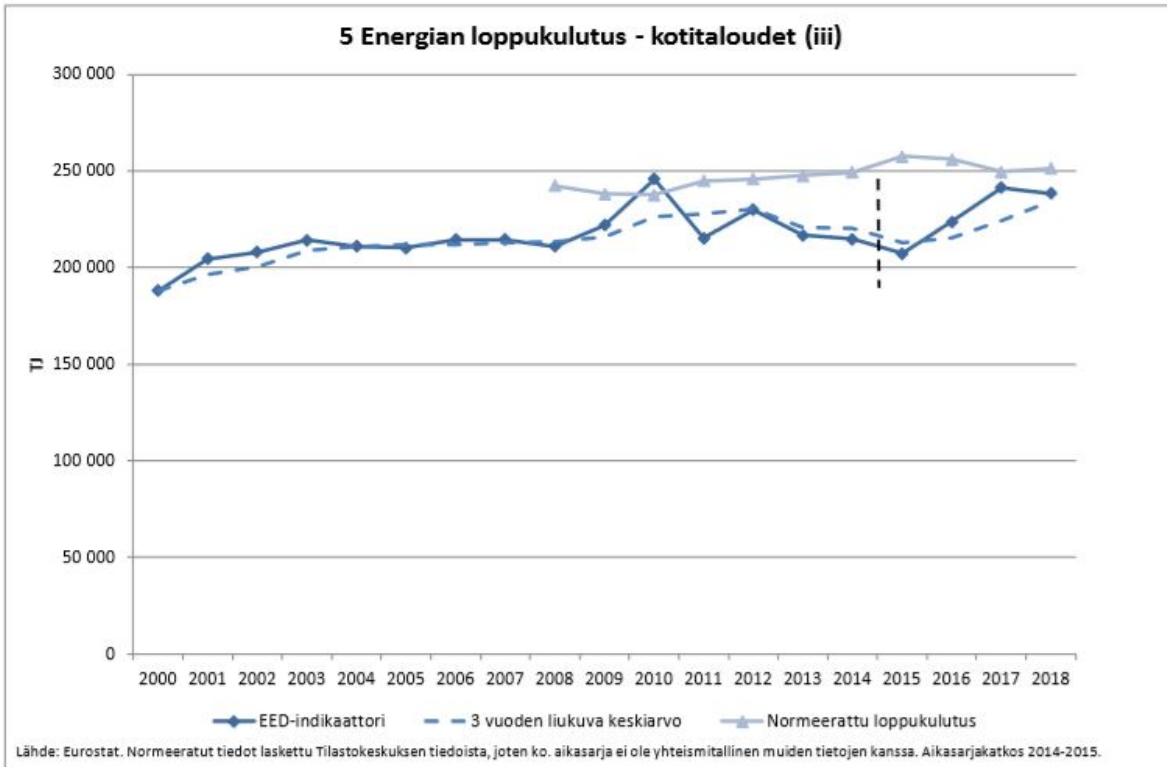
<sup>17</sup> Finland's national cumulative energy savings target for 2014-2020 under Article 7 EED is 49 TWh<sub>cum</sub>.

Key:

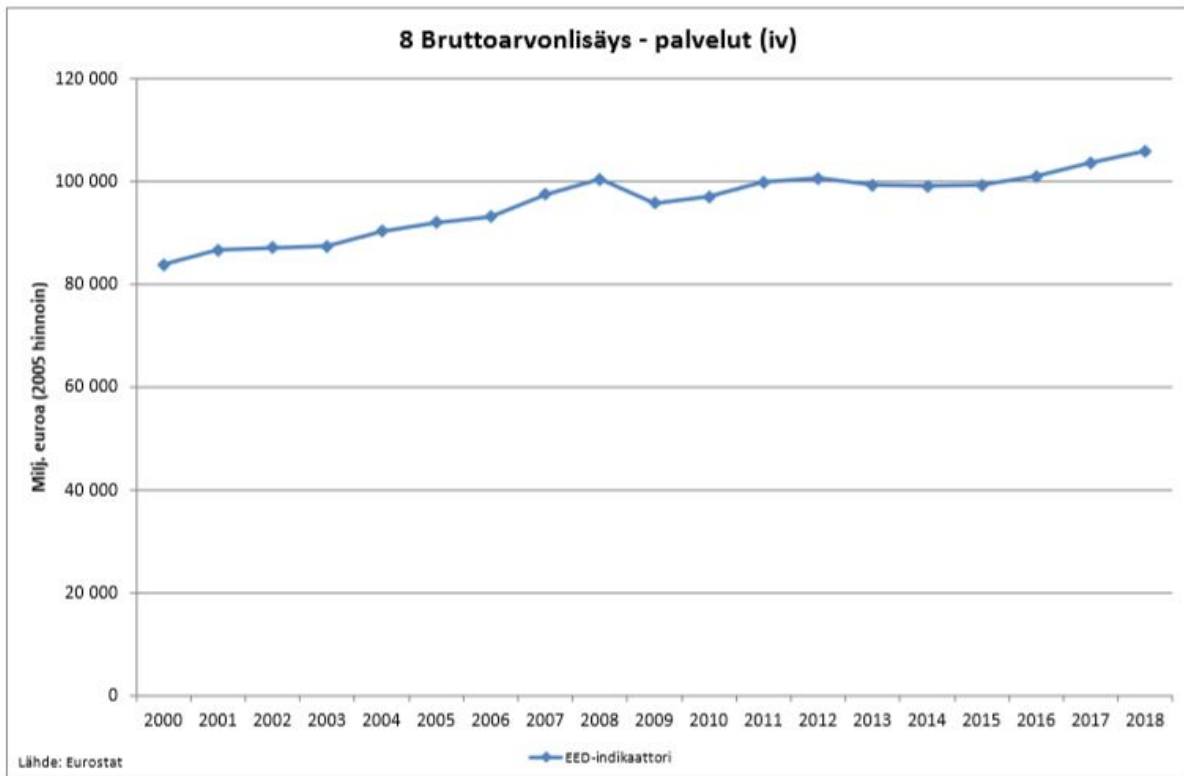
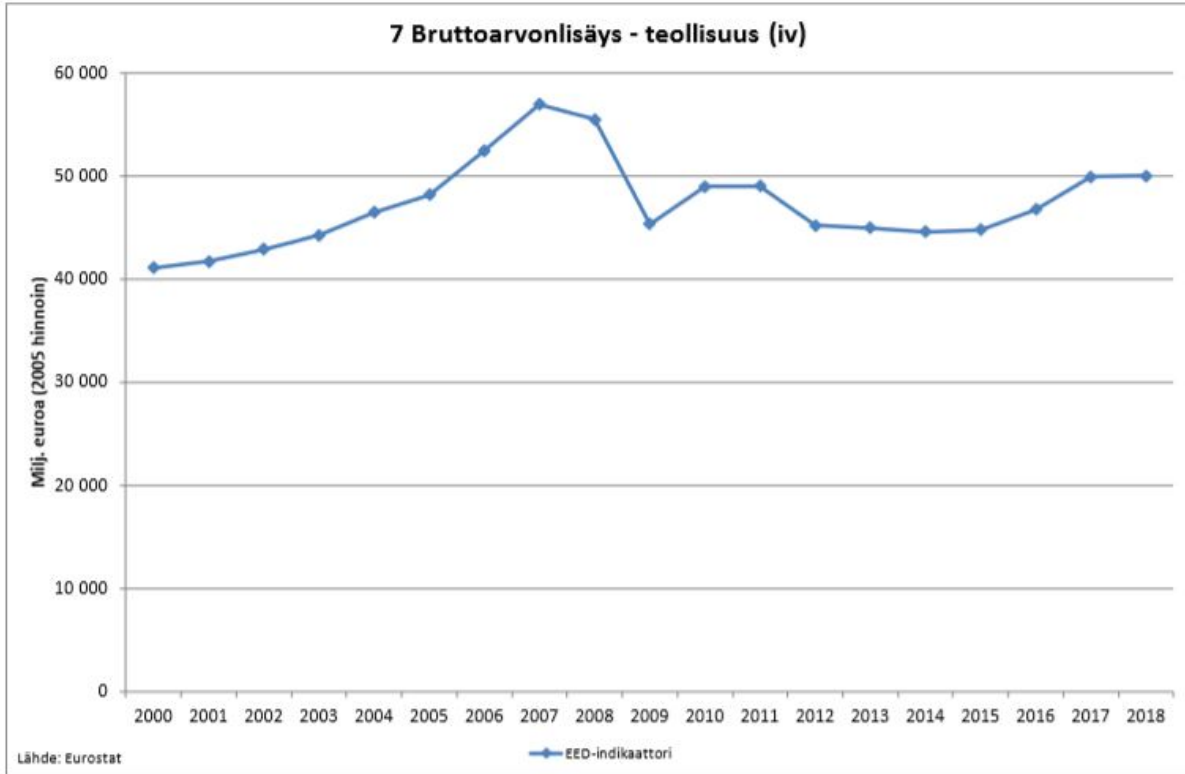
1. Primäärienergian kulutus = Primary energy consumption  
EED-indikaattori = EED indicator  
3-vuoden liukuva keskiarvo = 3-year moving average
2. Energian kokonaisloppukulutus = Total final energy consumption
3. Energian loppukulutus – teollisuus = Final Energy Consumption — industry sector
4. Energian loppukulutus – liikenne = Final Energy Consumption — transport sector
5. Energian loppukulutus – kotitaloudet = Final energy consumption — households
6. Energian loppukulutus – palvelut = Final energy consumption — services
7. Bruttoarvonlisäys – teollisuus = Gross value added (GVA) – industry
8. Bruttoarvonlisäys – palvelut = Gross value added (GVA) - services
9. Kotitalouksien käytettävissä olevat tulot = Disposable income of households
10. Bruttokansantuote = Gross domestic product (GDP)
11. Lämpövoimaloiden sähköntuotanto = Electricity generation from thermal power generation
12. Yhteistuotantolaitosten sähköntuotanto = Electricity generation from combined heat and power
13. Lämpövoimaloiden lämmöntuotanto = Heat generation from thermal power generation
14. Yhteistuotantolaitosten lämmöntuotanto (ei sisällä teollisuuden hukkalämpöä)\*\*Eurostat-data ei sisällä teollisuuden hukkalämpöä) = Heat generation from combined heat and power plants (does not include waste heat from industry)\*\* Eurostat data does not include waste heat from industry
15. Lämpövoimaloiden polttoainepanos = Fuel input for thermal power generation
16. Matkustajakilometrit = Passenger-kilometres
17. Tonnikilometrit = Tonne-kilometres
18. Väestö = Population
19. Kotitalouksien käytettävissä olevat tulot = Average disposable income of households
20. Kotitalouksien lukumäärä = Number of households
21. Yhteistuotantolaitosten polttoainepanos = Fuel inputs for combined heat and power plants  
Komission indikaattori = Commission indicator
22. Energian siirto- ja jakeluhäviöt = Energy losses in distribution and transmission
23. Kaukolämmöntuotanto = District heating production
24. Kaukolämmöntuotannon polttoainepanos = Fuel inputs for district heating production

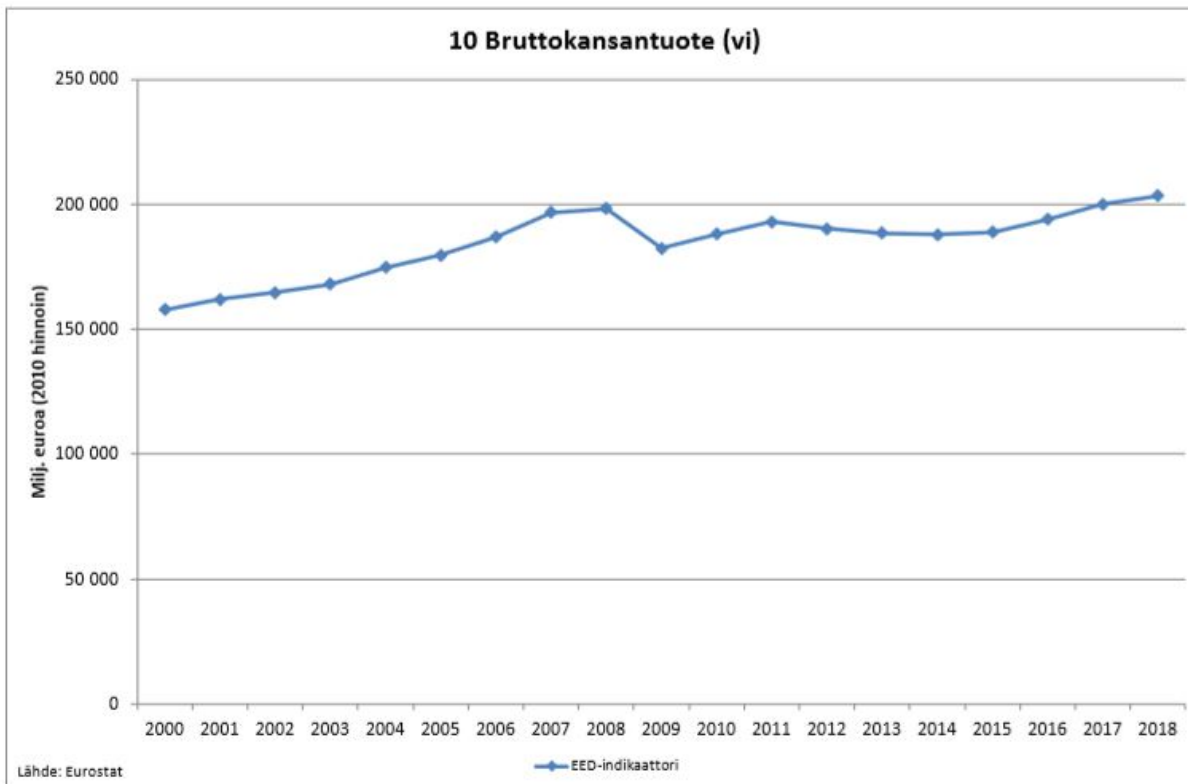
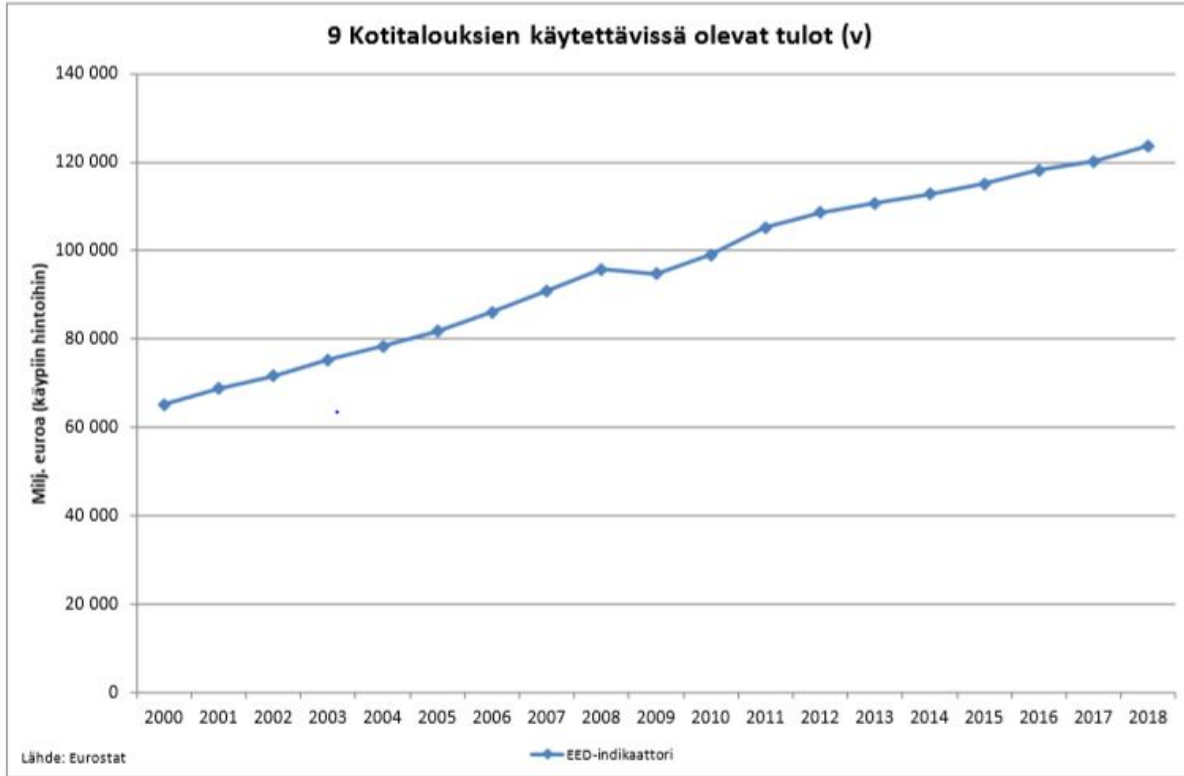


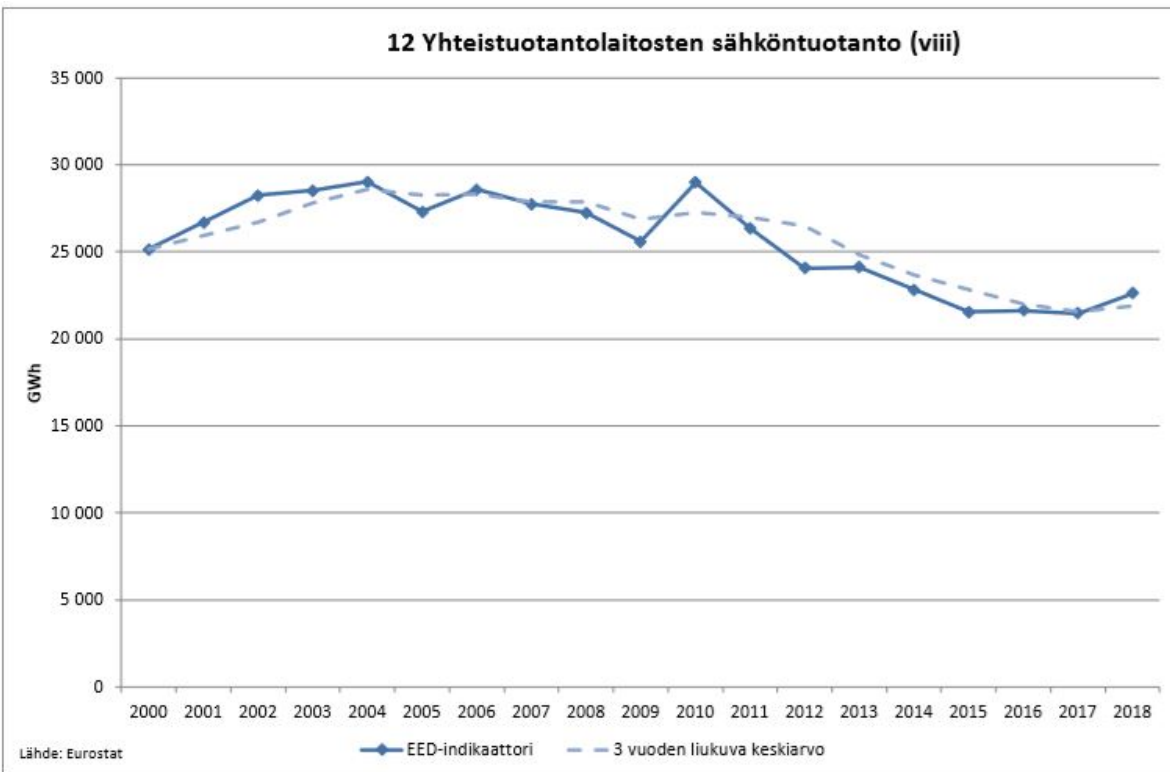
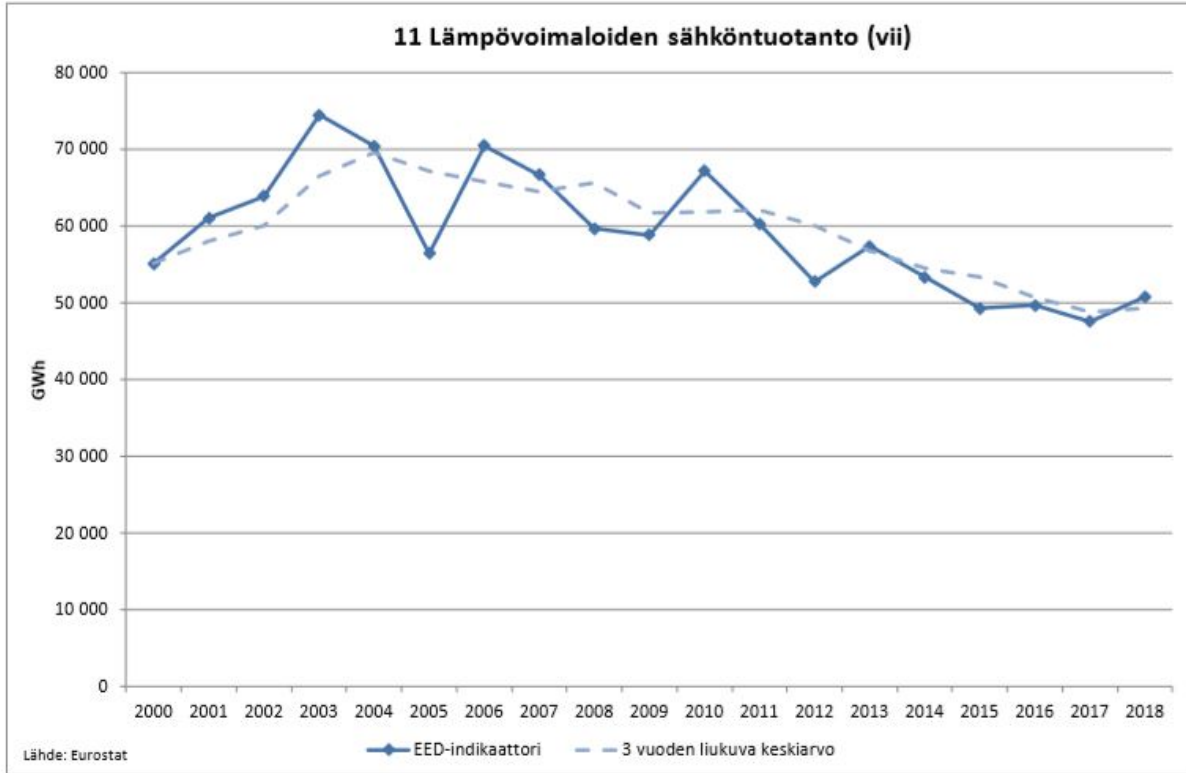


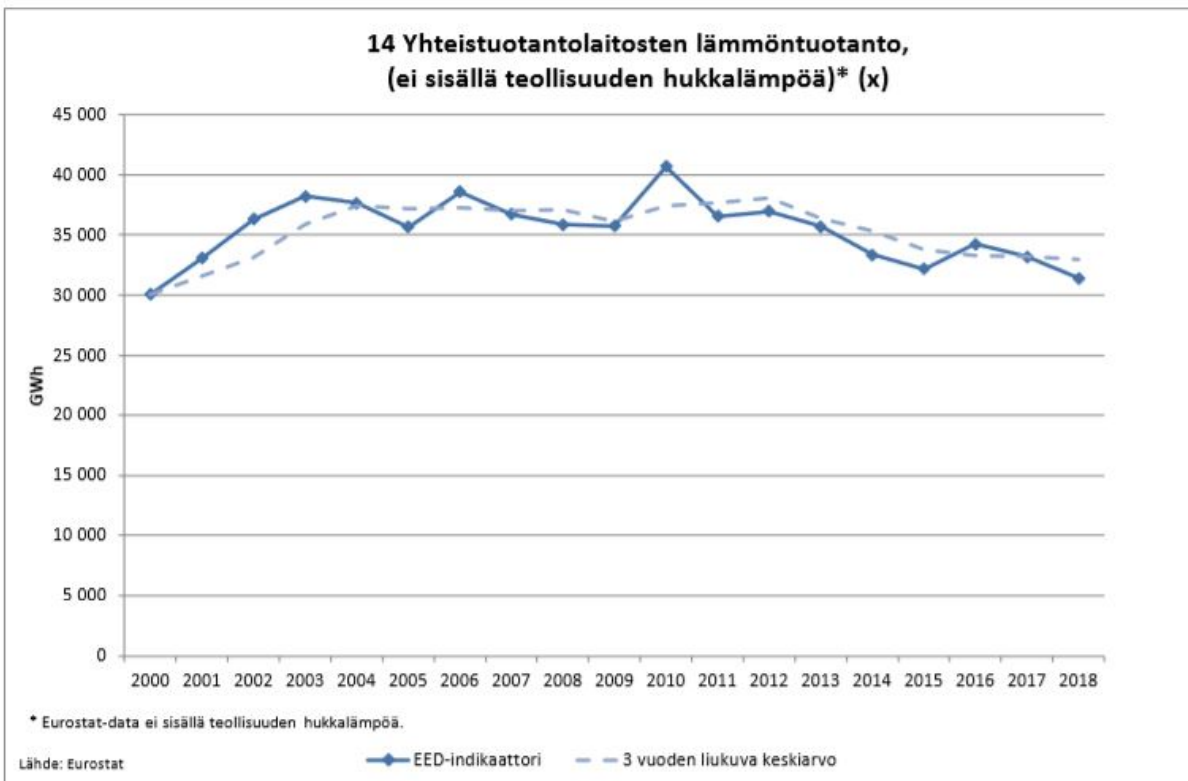
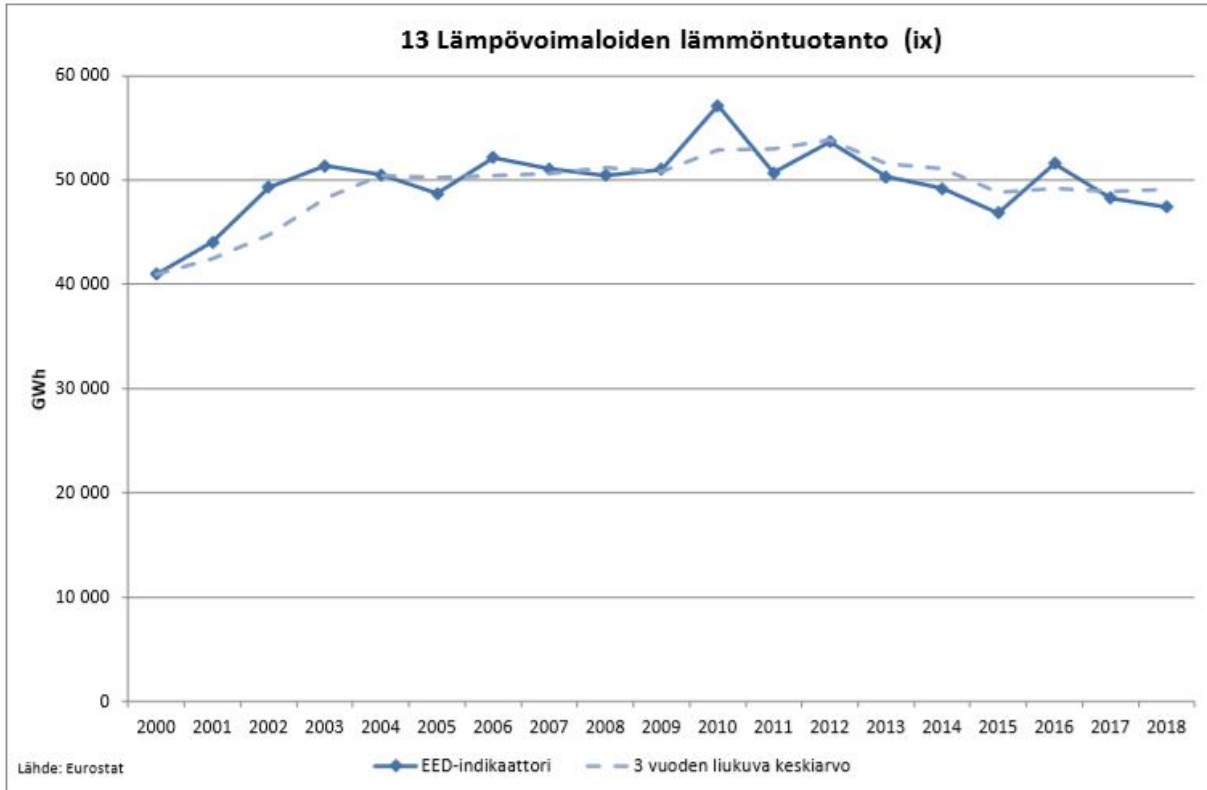


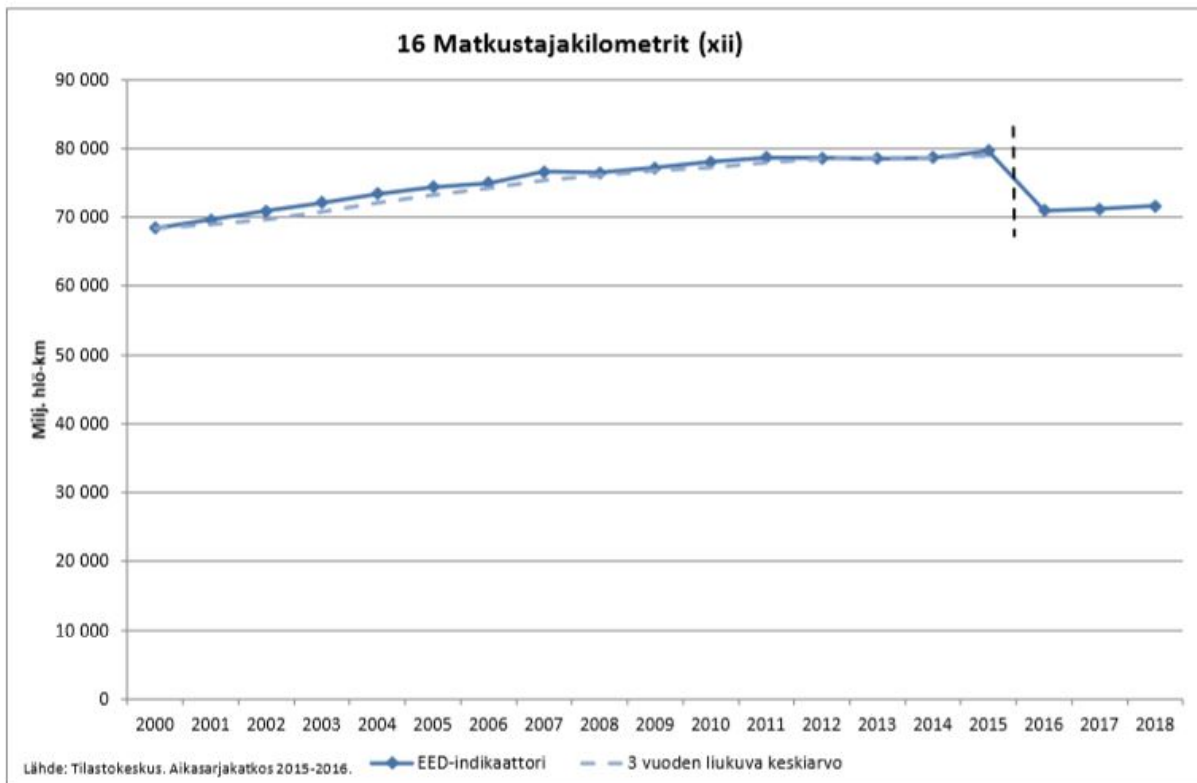
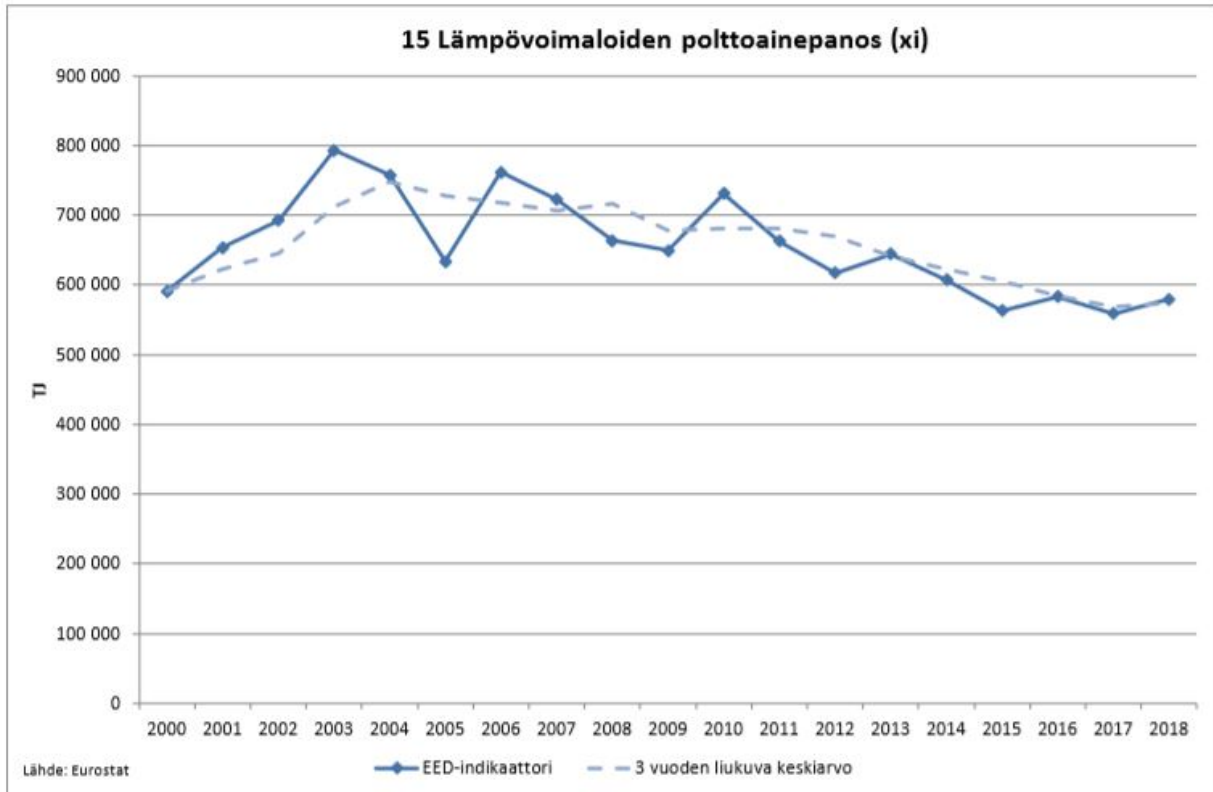


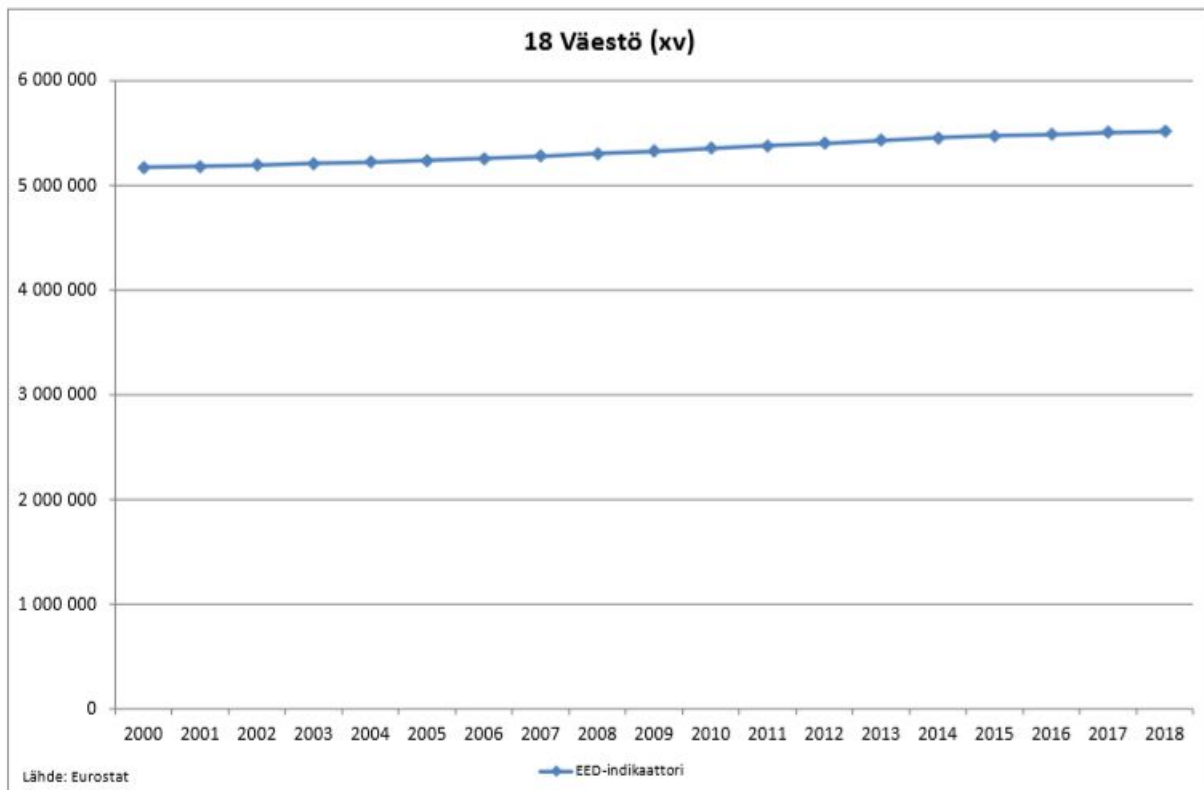
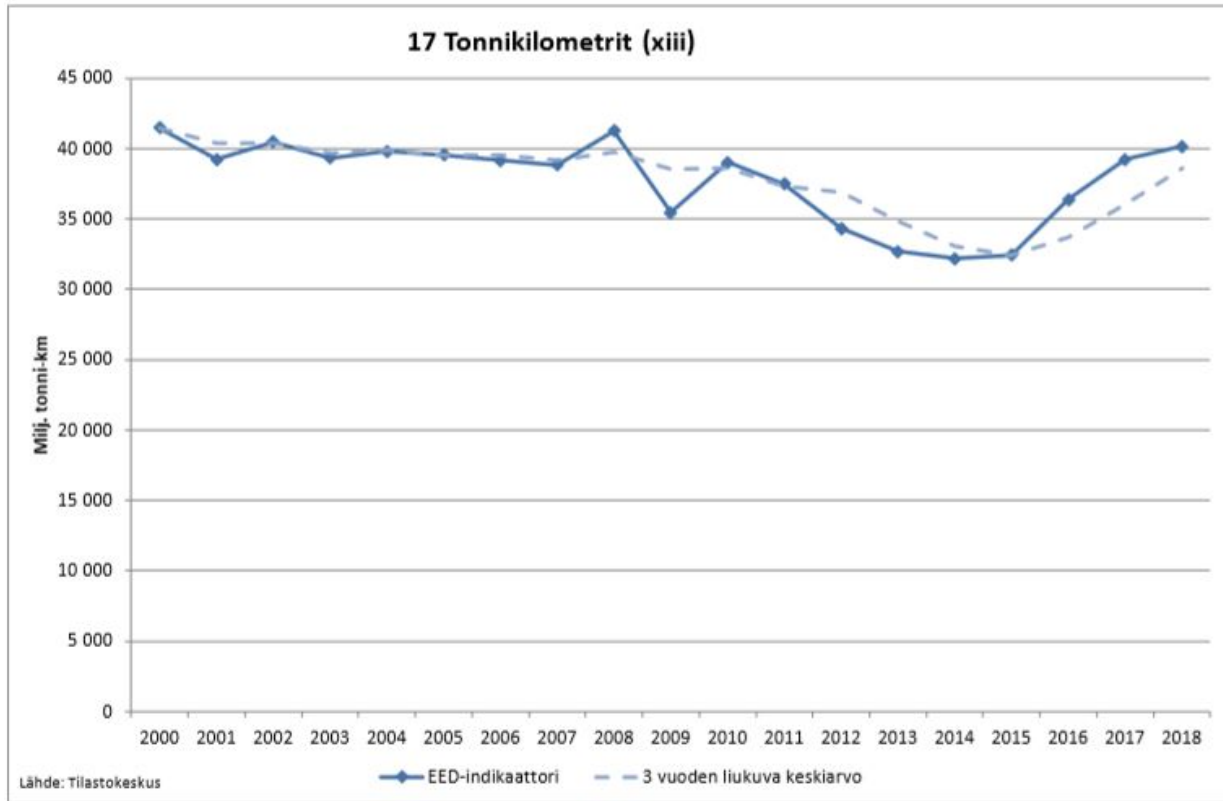




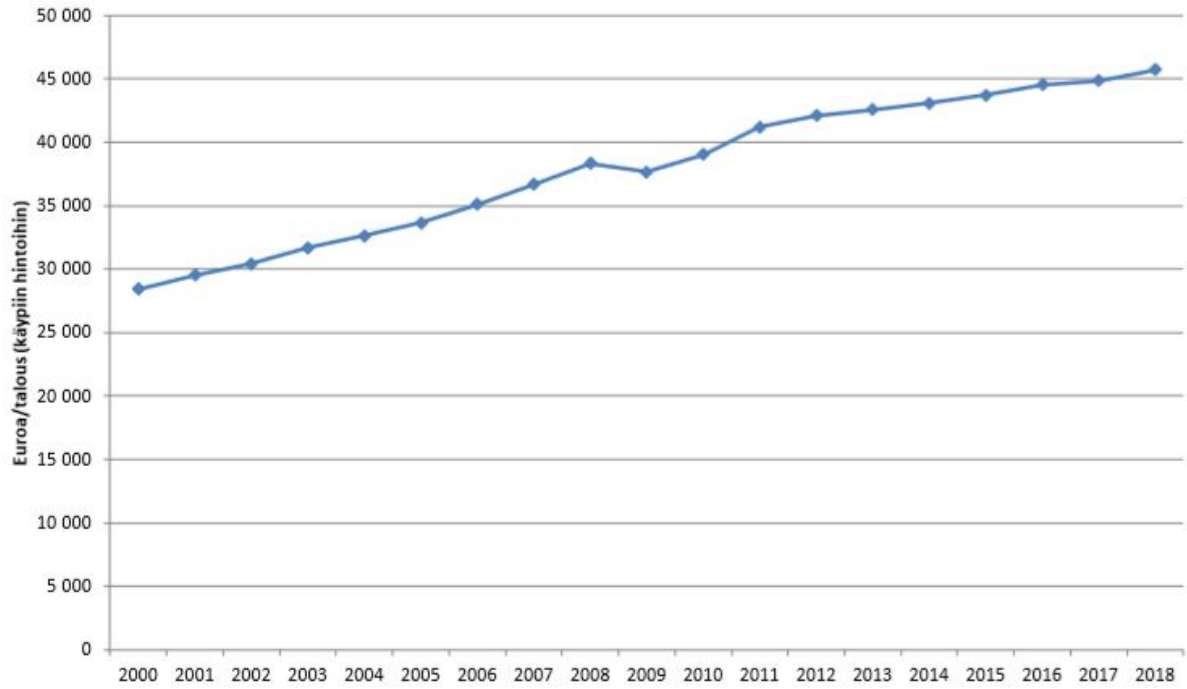








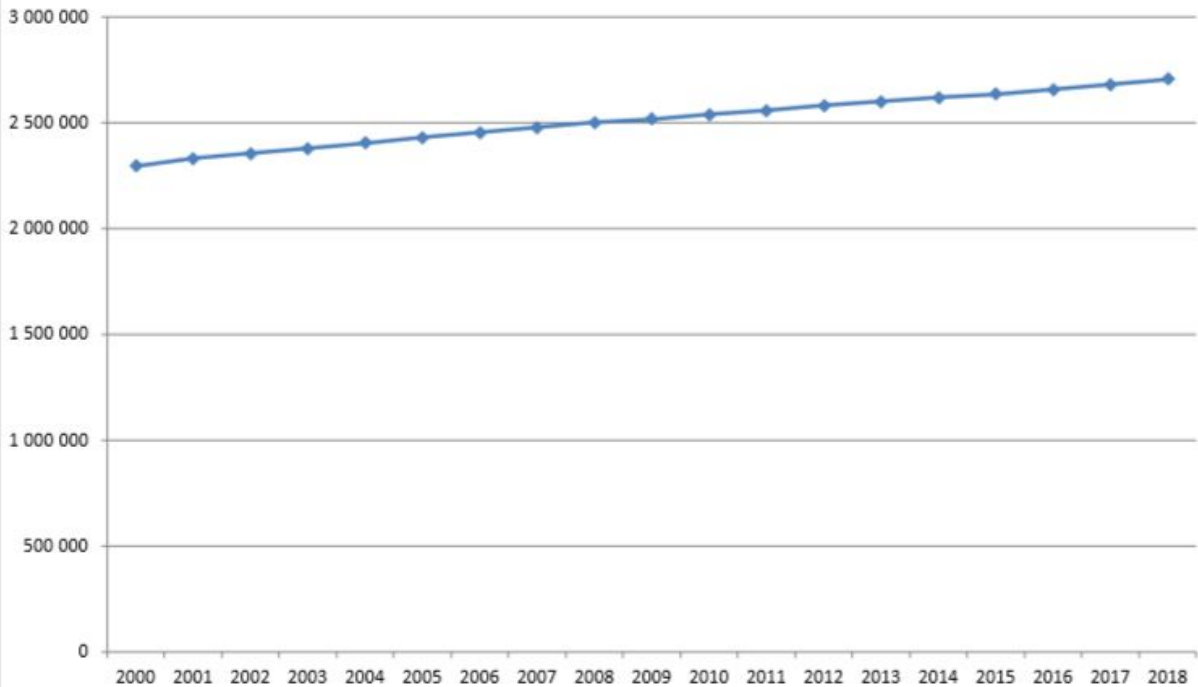
### 19 Kotitalouksien käytettävissä oleva keskimääräinen tulo



Lähde: Eurostat ja Tilastokeskus

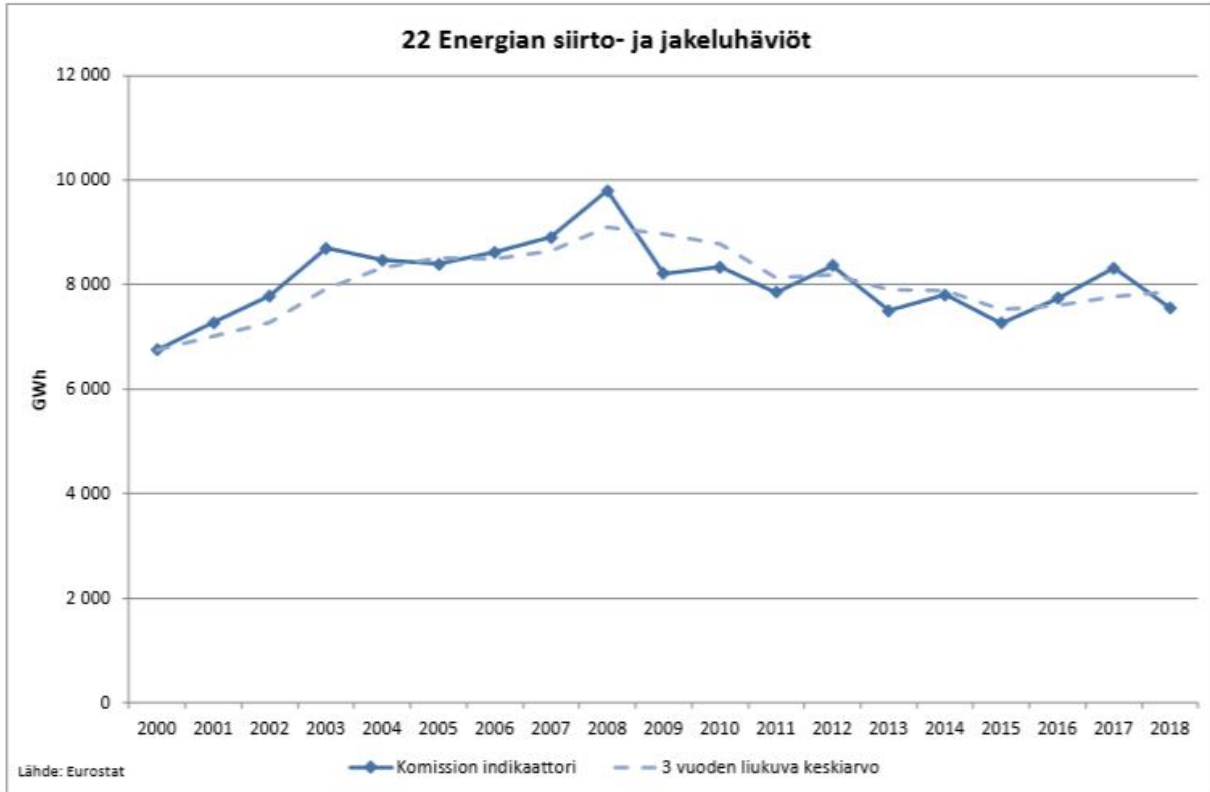
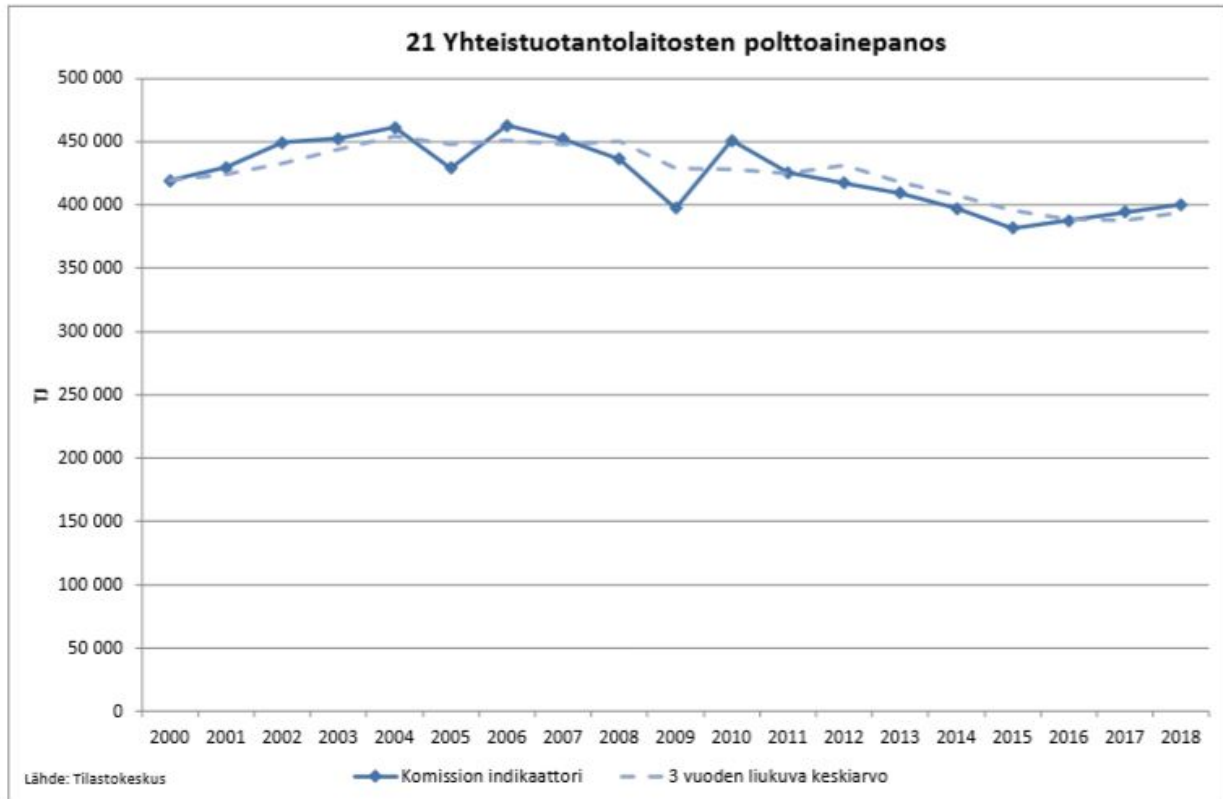
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### 20 Kotitalouksien lukumäärä



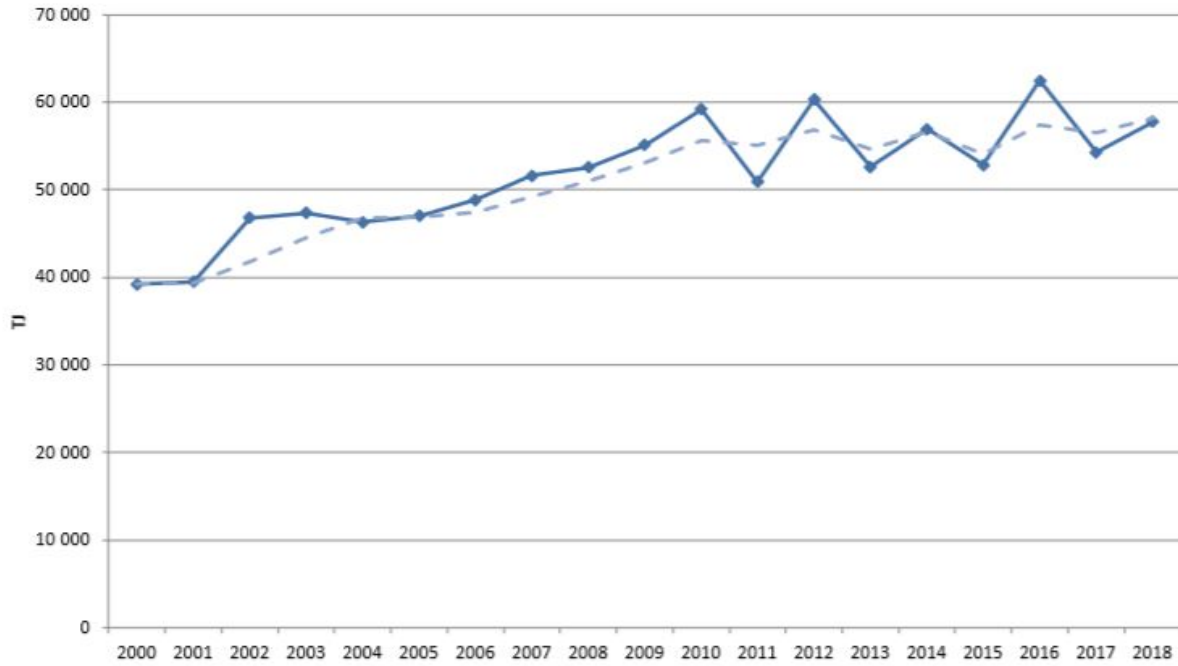
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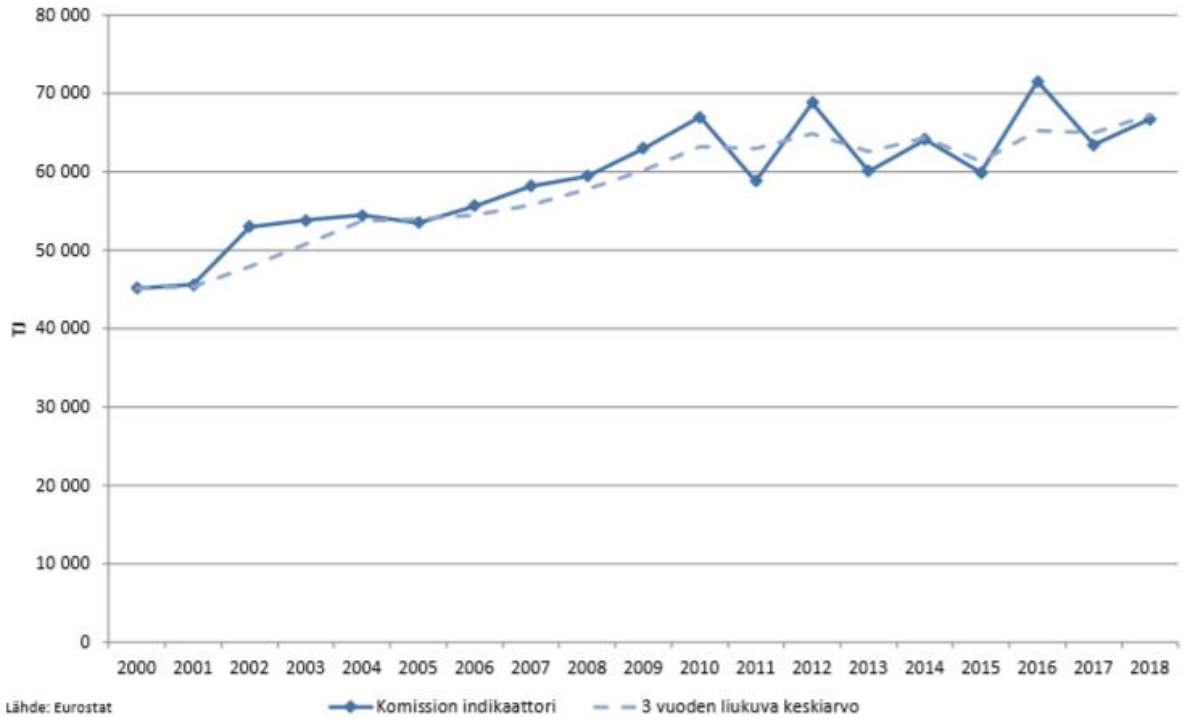
### 23 Kaukolämmöntuotanto



Lähde: Eurostat

—●— Komission indikaattori    - - - 3 vuoden liukuva keskiarvo

### 24 Kaukolämmöntuotannon polttoaineenpanos



## Article 7 EED - Annual and cumulative savings (TWh and ktoe)<sup>18</sup>

TWh/a, TWh<sub>cum</sub>

	2014 measures		2015	2014-2015 measures			2016	2014-2016 measures			2017	2014-2017 measures			2018	2014-2018 measures			2019	2014-2020 measures		
	New saving TWh/a	EED Article 7 cumulative saving TWh <sub>cum</sub>	New saving TWh/a	Current annual total saving, TWh/a	EED Art. 7 cumulative saving TWh <sub>cum</sub>	New saving TWh/a	Current annual total saving, TWh/a	EED Article 7 cumulative saving TWh <sub>cum</sub>	New saving TWh/a	Current annual total saving, TWh/a	EED Article 7 cumulative saving TWh <sub>cum</sub>	New saving TWh/a	Current annual total saving, TWh/a	EED Article 7 cumulative saving TWh <sub>cum</sub>	New saving TWh/a	Current annual total saving, TWh/a	EED Article 7 cumulative saving TWh <sub>cum</sub>	New saving TWh/a	Current annual total saving, TWh/a	EED Article 7 cumulative saving TWh <sub>cum</sub>		
KETO-1 Energy performance contracting activities	1.45	8.90	1.56	3.01	17.36	1.11	4.12	22.37	1.88	6.00	28.94	1.09	7.09	31.66	1.31	9.09	34.27					
KETO-2 Taxation of transport fuels /road transport	2.71	2.71	3.11	3.11	5.82	3.33	3.33	9.15	3.20	3.20	12.34	3.01	3.01	15.36	2.16	2.16	19.74					
KETO-3 Energy audit activities	0.12	0.72	0.07	0.18	1.07	0.05	0.24	1.32	0.06	0.30	1.52	0.03	0.32	1.59	0.04	0.37	1.68					
KETO-4 Energy performance	1.17	1.17	1.10	1.10	2.27	1.16	1.16	3.43	1.11	1.11	4.54	1.11	1.11	5.65	1.12	1.12	7.89					

<sup>18</sup> The savings effects may also be updated retrospectively to some extent for the years of implementation. This is because, for example, those linked to the Energy Performance Pact may also increase the previously unreported efforts for previous years, and revising the data may also reveal the need for corrections retrospectively.

contracting activities / Energy services and Höyla customers																	
KETO-5 Heat pump heaters of one-family and terraced houses	0.60	3.89	0.53	1.13	6.83	0.27	1.41	8.06	0.28	1.69	9.05	0.34	2.02	9.88	0.29	2.74	10.67
KETO-6 Investments in a heating plant	0.11	0.70	0.04	0.15	0.94	0.07	0.22	1.25	0.10	0.32	1.60	0.13	0.45	1.92	0.09	0.63	2.10
KETO-7 - Energy efficiency rules for renovated buildings and start-up grants for deep renovations	0.22	1.44	0.26	0.48	2.88	0.24	0.72	3.94	0.23	0.95	4.75	0.24	1.19	5.35	0.33	1.76	5.87
KETO-8 Energy efficie	0.38	2.47	0.37	0.75	4.50	0.37	1.12	6.18	0.39	1.51	7.53	0.38	1.89	8.49	0.35	2.59	9.19

ncy rules for new buildi ngs																	
KETO 1 - KETO 8, total	6.7	22.0	7.1	9.9	41.7	6.6	12. 3	55.7	7.2	15. 1	70.3	6.3	17. 1	79.9	5.7	20. 5	91.4
Of Finlan d's cumul ative target under Articl e 7 EED (49T Wh <sub>cu</sub> m in 2020)		45%			85%			114 %			143 %			163 %			187 %

	2014 measures		2015	2014-2015 measures			2016	2014-2016 measures			2017	2014-2017 measures			2018	2014-2018 measures			2020	2014-2020 measures		
KETO measures	New saving TWh/a	EED Article 7 cumulative 2020 saving TWh cum	New saving TWh/a	Current annual total saving, TW/a	EED Article 7 cumulative 2020 saving TWh cum	New saving TWh/a	Current annual total saving, TW/a	EED Article 7 cumulative 2020 saving TWh cum	New saving TWh/a	Current annual total saving, TW/a	EED Article 7 cumulative 2020 saving TWh cum	New saving TWh/a	Current annual total saving, TW/a	EED Article 7 cumulative 2020 saving TWh cum	New saving TWh/a	Current annual total saving estimate TW/a	EED Article 7 cumulative 2020 saving TWh cum	New saving TWh/a	Current annual total saving estimate TW/a	EED Article 7 cumulative 2020 saving TWh cum		
KETO-1 Energy performance contracting activities	125	766	134	259	1,493	96	355	1,923	161	516	2,488	94	610	2,722	112	782	2,947					
KETO-2 Taxation of transport fuels /road transport	233	233	268	268	500	286	286	787	275	275	1,061	259	259	1,321	186	186	1,697					
KETO-3 Energy audit activities	10	62	6	16	92	5	20	113	5	25	131	2	28	137	4	32	144					
KETO-4 Energy performance contracting activities	100	100	95	95	195	100	100	295	95	95	390	95	95	486	96	96	678					
KETO-5 Heat pump	52	335	46	97	587	23	121	693	24	145	778	29	174	850	25	236	918					

heaters of one-family and terraced houses																	
KETO-6 Investments in a heating plant	9	60	4	13	81	6	19	107	9	27	137	11	38	165	8	55	181
KETO-7 Energy efficiency rules for renovated buildings and start-up grants for deep renovations	19	123	23	42	248	20	62	339	20	82	409	20	102	460	28	151	505
KETO-8 Energy efficiency rules for new buildings	33	212	32	64	387	32	96	531	33	130	648	33	163	730	30	223	790
KETO 1 - KETO 8, total	580	1,891	606	853	3,584	568	1,059	4,788	623	1,296	6,042	544	1,469	6,869	489	1,759	7,860
Of Finland's cumulative		45%			85%			114%			143%			163%			187%

