

EED Annual Report 2014

29 April 2014

Report pursuant to Article 24(1) of the Energy Efficiency Directive (2012/27/EU)
to the European Commission

CONTENTS

Introduction	3
1 Finland's indicative national energy efficiency target for 2020.....	4
2 Indicators set out in the annual report.....	5
2.1 Indicators	5
2.2 Analysis of changes in energy consumption	7
3 Most important measures implemented during the previous year	8
4 Central government buildings	9
5 Energy efficiency obligation schemes – Article 7.....	9
6 Annex 1 EED Annual Report – indicator graphs.....	10

INTRODUCTION

This is the second annual report drawn up by Finland pursuant to the Energy Efficiency Directive (EED), and the data presented in the report are mostly based on notifications submitted to the Commission pursuant to Articles 3, 5 and 7 of the EED in 2013. As no notable changes have taken place in the national implementation of the EED with regard to the data presented in the aforementioned notifications and as annual reports pursuant to the EED are submitted to the Commission as annexes to the more extensive NEEAP-3 report, this 2014 report references the original documents.

Sections 2 and 6 show the indicators for the year 2012 as per the annual reporting requirements as well as the results of analyses carried out on changes from 2010–2011.

1 FINLAND'S INDICATIVE NATIONAL ENERGY EFFICIENCY TARGET FOR 2020

Finland's indicative national energy efficiency target for 2020 is an absolute level of final energy consumption of 310 TWh (26.66 Mtoe). This corresponds to an absolute level of primary energy consumption of 417 TWh (35.86 Mtoe). The estimated gross domestic product for 2020 used in the scenarios was EUR 159 billion (EUR 134.7 billion in 2010 at 2000 prices).

The target was set in the first annual report drawn up pursuant to the EED in April 2013¹.

¹ http://ec.europa.eu/energy/efficiency/eed/doc/reporting/2013/fi_2013report_en.pdf

2 INDICATORS SET OUT IN THE ANNUAL REPORT

2.1 Indicators

Table 1 shows the EED annual report indicators for the years 2011 and 2012. No conclusions can be drawn on changes in energy efficiency on the basis of two years' data. In Finland, annual weather conditions (heating) and the production volumes of energy-intensive industry have a considerable impact on the figures.

Table 1. Energy consumption statistics from 2011 and 2012

	INDICATOR	2011	2012	UNIT
1	Total primary energy consumption	1 390 851	1 371 586	TJ
2	Total final energy consumption	1 092 492	1 107 330	TJ
3	Final energy consumption – industry	511 944	502 101	TJ
4	Final energy consumption – transport	183 296	179 722	TJ
5	Final energy consumption – households	220 356	240 055	TJ
6	Final energy consumption – services	129 690	138 676	TJ
7	Gross value added – industry	41 274	39 078	EUR million
8	Gross value added – services	105 845	106 674	EUR million
9	Disposable household income	39 925	40 757	EUR million
10	Gross domestic product (GDP)	192 023	190 436	EUR million
11	Electricity generation from thermal power generation	35 365	28 463	GWh
12	Electricity generation from combined heat and power	25 542	23 286	GWh
13	Heat generation from thermal power generation	86 663	89 314	GWh
14	Heat generation from combined heat and power plants	70 845	71 343	GWh
15	Fuel input for thermal power generation	594 780	547 323	TJ
16	Passenger kilometres (pkm)	79 859	79 735	Million passenger kilometres
17	Tonne kilometres (tkm)	38 301	35 242	Million tonne kilometres
18	Population	5 401 267	5 426 674	people
19	<i>Average disposable household income</i>	<i>39 925</i>	<i>40 757</i>	<i>EUR/household</i>
20	<i>Number of households</i>	<i>2 556 068</i>	<i>2 579 781</i>	<i>Qty</i>
21	<i>Fuel input for combined heat and power plants</i>	<i>425 962</i>	<i>417 176</i>	<i>TJ</i>
22	<i>Energy transmission and distribution losses (all fuels)</i>	<i>6 625</i>	<i>7 102</i>	<i>GWh</i>
23	<i>Heat generation from district heating plants²</i>	<i>28 750</i>	<i>36 972</i>	<i>TJ</i>
24	<i>Fuel input for district heating plants²</i>	<i>32 077</i>	<i>40 864</i>	<i>TJ</i>

² Separate heat and power generation

The figures given above pursuant to Part 1 of Annex XIV to the Directive are set out in the form of time series covering the 2000–2012 period (Annex 1 EED Annual Report – indicator graphs). The data are given both in accordance with the Directive (EED indicators) and in the form of three-year rolling averages.

2.2 Analysis of changes in energy consumption

The Energy Efficiency Directive obligates Member States to analyse and present, in connection with their annual report, an appraisal of changes in any sectors (industry, transport, households, services) where energy consumption has remained stable or has grown (EED Annex XIV, Part 1).

Energy consumption grew with regard to households and services but decreased with regard to industry and transport in 2012. Due to the increased consumption of households and the service sector, total final energy consumption also increased by 1.4%. Annual variations in the need for heating have a considerable impact on energy consumption in Finland. The difference in final energy consumption between a cold and a warm year can be more than five per cent.

HOUSEHOLDS

Household energy consumption grew by nine per cent in 2012. The most important reason for this was the increased need for heating due to cold weather. After normalising the share of heating of households' energy consumption by factoring in heating degree days, households' total energy consumption grew by 1.1%. Most of this increase can be explained by the increase in the number of households, which amounted to 0.9% in 2012. The increase attributable to other factors therefore comes to 0.2%.

The average disposable household income increased by 2.1%. There were also changes in energy prices. The prices of district heating and light fuel oil increased substantially, while electricity prices dropped slightly compared to the previous year.

The district heating costs of all types of households increased in 2012: 3.7% in detached houses (where district heating accounts for 6% of heating energy), 6.7% in terraced houses (where district heating accounts for 53%) and 6.3% in apartment blocks (where district heating accounts for 86%). The price of light fuel oil (which accounts for 12% of the heating energy of detached houses and for very little in other types of properties) increased by 6.3% in 2012.

Electricity accounted for 31% of total heating energy in detached houses, for 33% in terraced houses and for seven per cent in apartment blocks. The price of electricity after tax in 2012 was slightly lower than in 2011 with regard to all types of households. The average price of electricity in electrically heated detached houses was 2.2–2.5% (the range accounts for consumers with direct electrical heating systems and storing electrical heating systems) lower than in 2011. The average price of electricity in detached houses heated by means other than electricity was 1.2% lower than in the previous year on average and that paid by people living in apartment blocks 0.3% lower. There were no changes in electricity taxes and charges or in value added tax in 2012.

SERVICES

Energy consumption in the service sector grew by 6.9% in 2012. The most important reason for this was the increased need for heating due to cold weather. The increase in service-sector energy consumption is also partially explained by the increase in floor area and demand for services.

After normalising the share of heating of the service sector's energy consumption by factoring in heating degree days, the service sector's total energy consumption grew by 2.7%. This is very close to the increase in service-sector floor area, which was 2.5% in 2012. The increase attributable to factors other than the need for heating and the increase in floor area therefore comes to 0.2%.

Although the link between energy consumption and value added is tenuous, energy consumption is often examined relative to value added in the service sector, as this indicator is believed to reflect changes in the volume of business. Value added in the service sector grew by 3.0% in 2012.

In 2011, electricity accounted for 52% of energy end use in the service sector, district heating (and energy generated by heat pumps) for 35%, oil for 9% and other forms of energy for 4% in total. The price of electricity dropped by 0.8% on average compared to 2011 for those whose electricity consumption is moderate (less than 20 MWh/a), but rose by 0.1% for those whose consumption is higher (20–499 MWh/a). There were no changes in electricity taxes and charges or in value added tax in 2012. No separate tariff exists for the supply of district heating to the service sector, and no separate statistics are kept on prices. The increase in the price of floor area, which was 6.3%, can be used as a guide. The price of light fuel oil grew by 6.3% in 2012.

3 MOST IMPORTANT MEASURES IMPLEMENTED DURING THE PREVIOUS YEAR

In 2013, Finland focused on preparing for the implementation of the Energy Efficiency Directive. The Finnish Ministry of Employment and the Economy set up a working group for this purpose on 26 November 2012, and the various sub-divisions established under the working group drew up more detailed, article-specific plans of the necessary implementing measures. The final report of the EED working group³, which sets out the progress so far and the planned measures, was published in January 2014. The legal sub-division of the EED working group began work on a new energy efficiency bill in the spring of 2013. The aim is for the bill to transpose into national legislation those EED obligations that are currently not covered by national laws.

The Finnish Ministry of Transport and Communications published its environmental strategy for the years 2013–2020 in December 2013. The environmental strategy for transport⁴ lays down the most important targets for environmental action and priorities for all forms of transport. It also includes an updated version of the climate policy of Finland's transport administration. With regard to energy, the environmental strategy aims to stop the increase in energy consumption and to bring about a decrease before 2020. In 2020, the final energy consumption of domestic transport must not exceed 48 TWh.

Worth mentioning as an isolated yet important measure is the signing of two letters of intent, one between the Finnish Ministry of Employment and the Economy and the Confederation of Finnish Industries and its member associations and the other between the Ministry of Employment and the Economy and seven local governments, which are both aimed at implementing Article 7 of the Energy Efficiency Directive, namely at cutting cumulative energy consumption by 29 TWh_{cum} between 2014 and 2020.

³ https://www.tem.fi/files/38617/Energiatohokkuusdirektiivin_toimeenpano_EED-tyoryhman_loppuraportti_2014.pdf

⁴ <http://www.lvm.fi/julkaisu/4373390/liikenteen-ymparistostrategia-2013-2020>

4 CENTRAL GOVERNMENT BUILDINGS

Finland has chosen to implement Article 5 by means of the alternative approach provided in paragraph 6. Finland submitted a notification⁵ to the Commission on 18 December 2013, which includes information about the building stock owned and occupied by central government within the meaning of Article 5, a calculation of the energy saving impact of the 3% renovation option and the eight most important energy efficiency initiatives.

According to statistical information, the energy savings in recent years have been on average 30% higher than the 3% renovation-based target set.

5 ENERGY EFFICIENCY OBLIGATION SCHEMES – ARTICLE 7

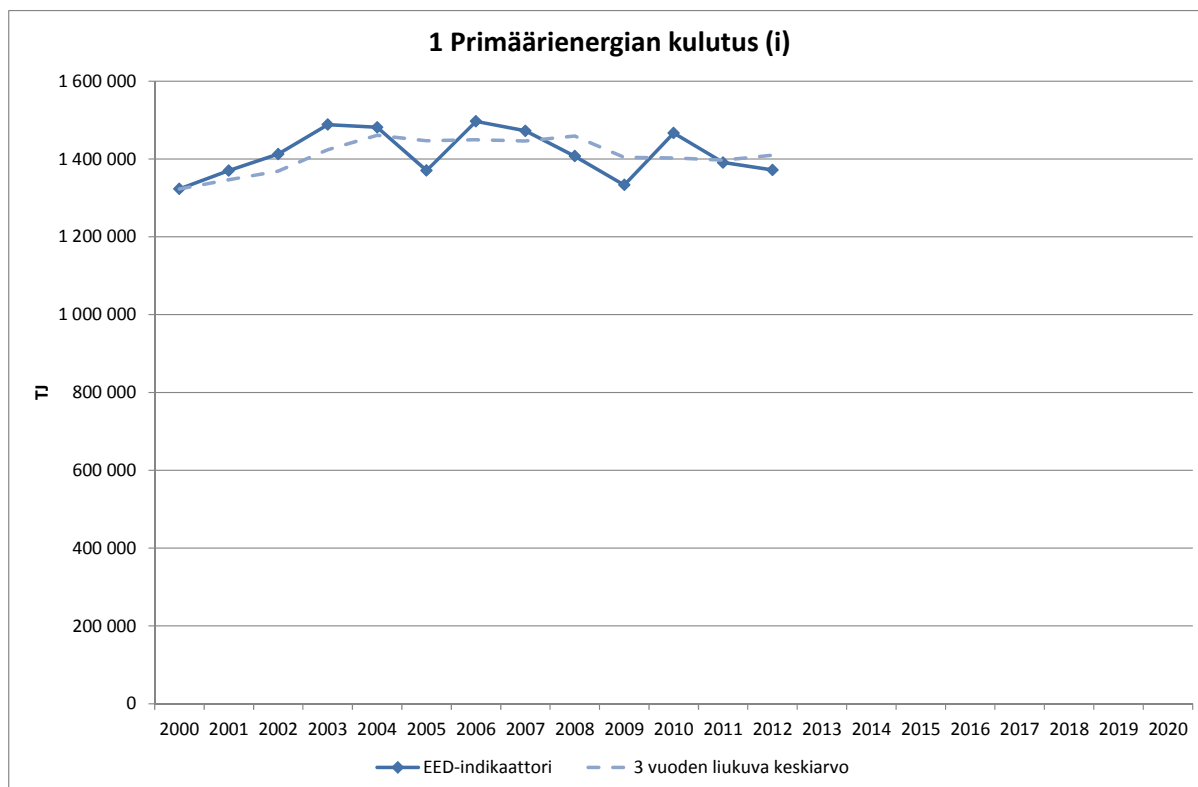
Finland has chosen to implement Article 7 by means of other policy measures as provided in paragraph 9. Finland submitted a notification⁶ to the Commission on 5 December 2013, which lists eight energy efficiency measures and includes more detailed descriptions of the same as well as the method for calculating the cumulative energy savings to be achieved from each measure.

The annual (2012) savings achieved by means of the alternative policy measures adopted in order to implement Article 7 are not discussed in this annual report. Similarly to the indicators reported in the annual report, the annual savings from policy measures relating to the implementation of Article 7 reported in subsequent annual reports will be from the year two years prior to the reporting year (X - 2, where X is the reporting year covered by each annual report).

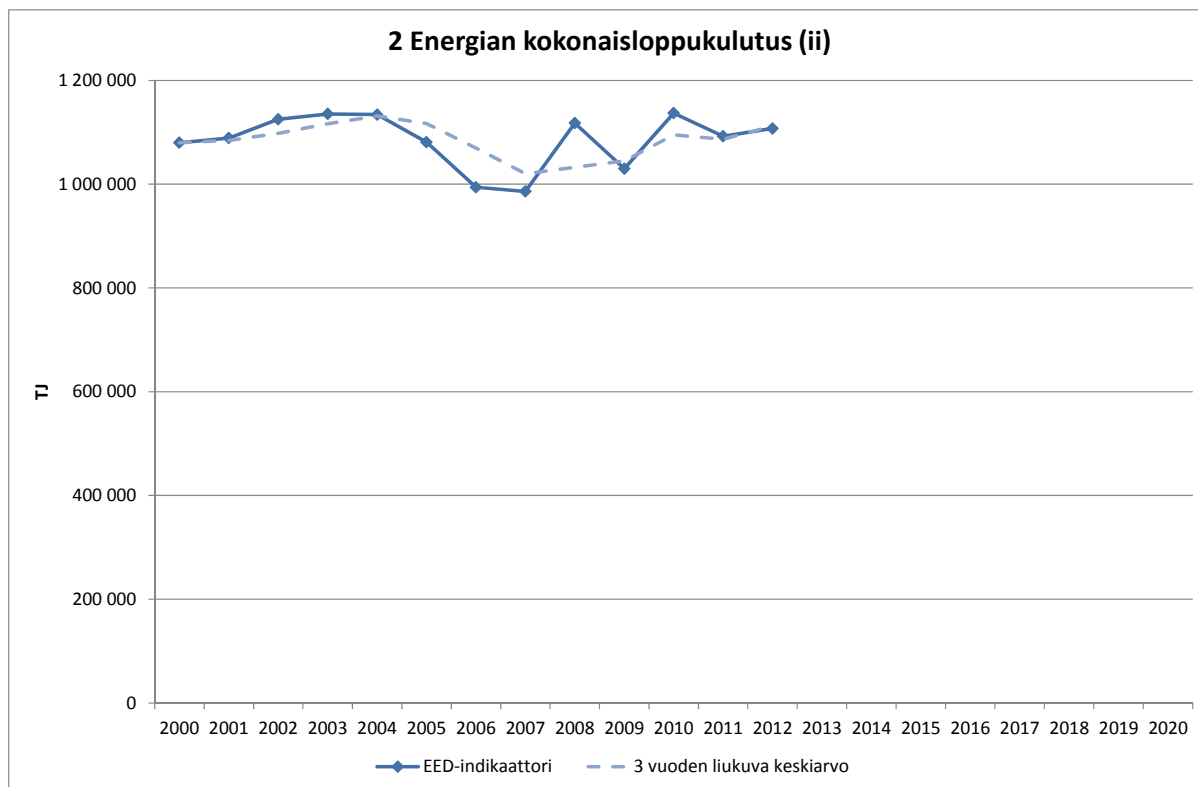
⁵ http://ec.europa.eu/energy/efficiency/eed/doc/article5/2013_fi_eeed_article5_en.pdf

⁶ http://ec.europa.eu/energy/efficiency/eed/doc/article7/2013_fi_eeed_article7_en.pdf

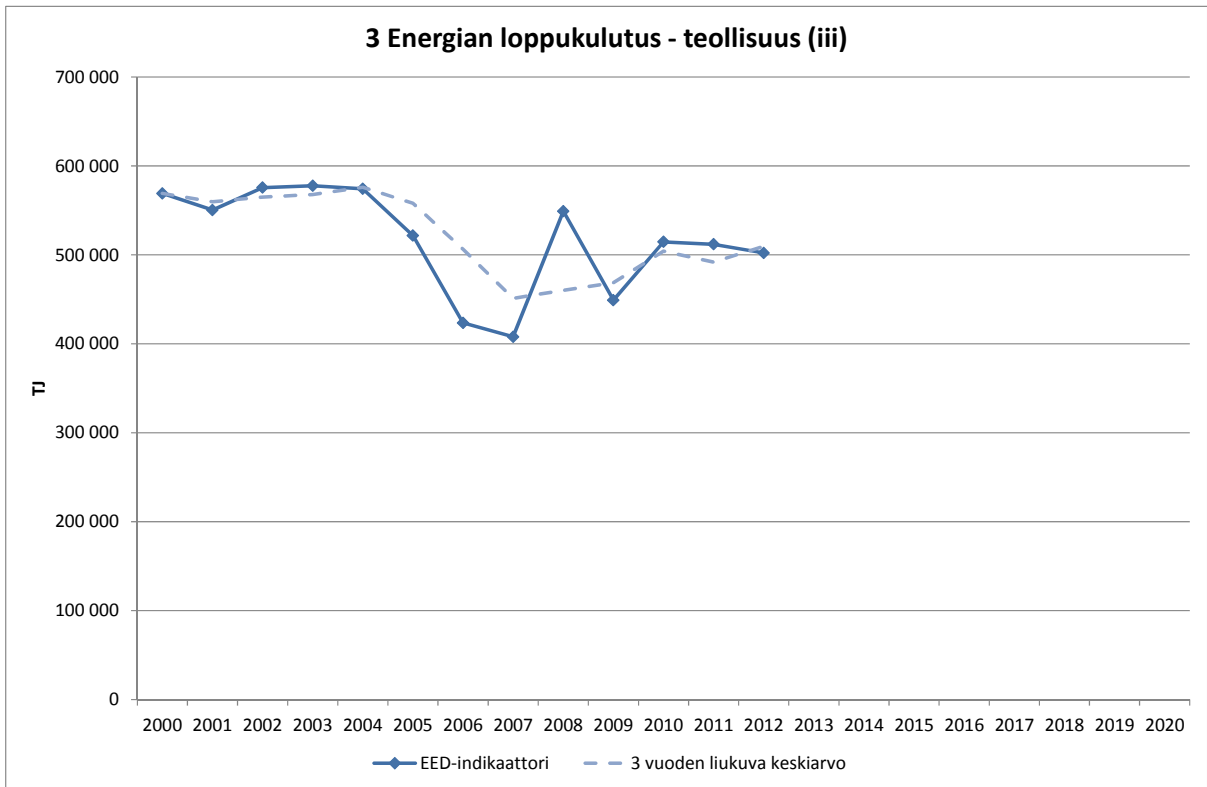
6 ANNEX 1 EED ANNUAL REPORT – INDICATOR GRAPHS



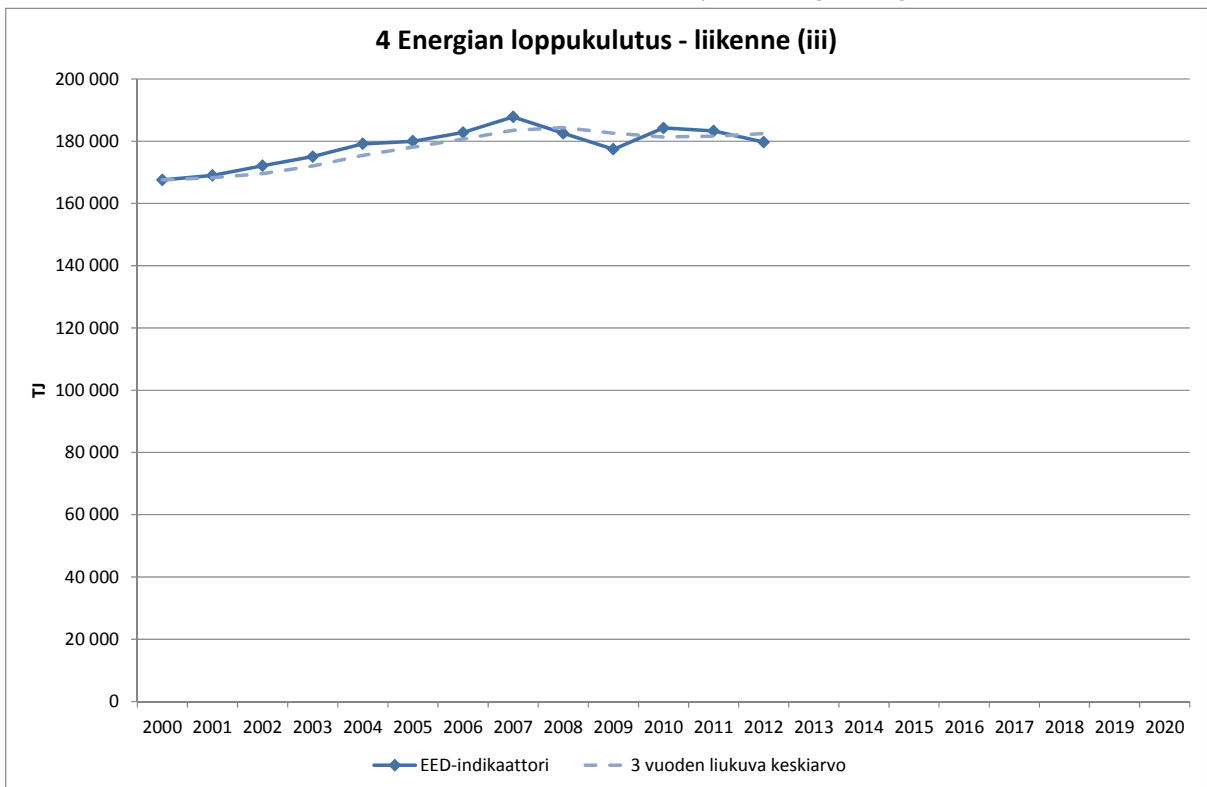
1 Primary energy consumption (i)
EED indicator 3-year rolling average



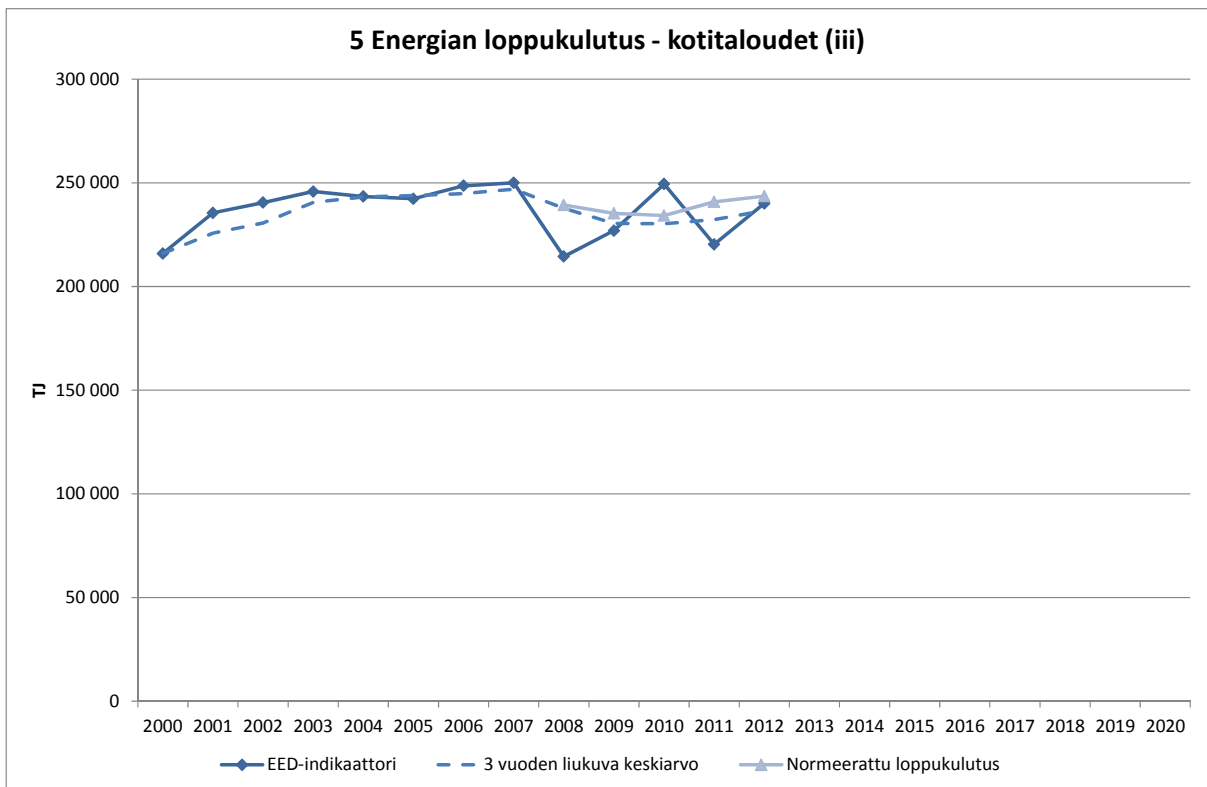
2 Total final energy consumption (ii)
EED indicator 3-year rolling average



3. Final energy consumption – industry (iii)
EED indicator 3-year rolling average



4 Final energy consumption – transport (iii)
EED indicator 3-year rolling average

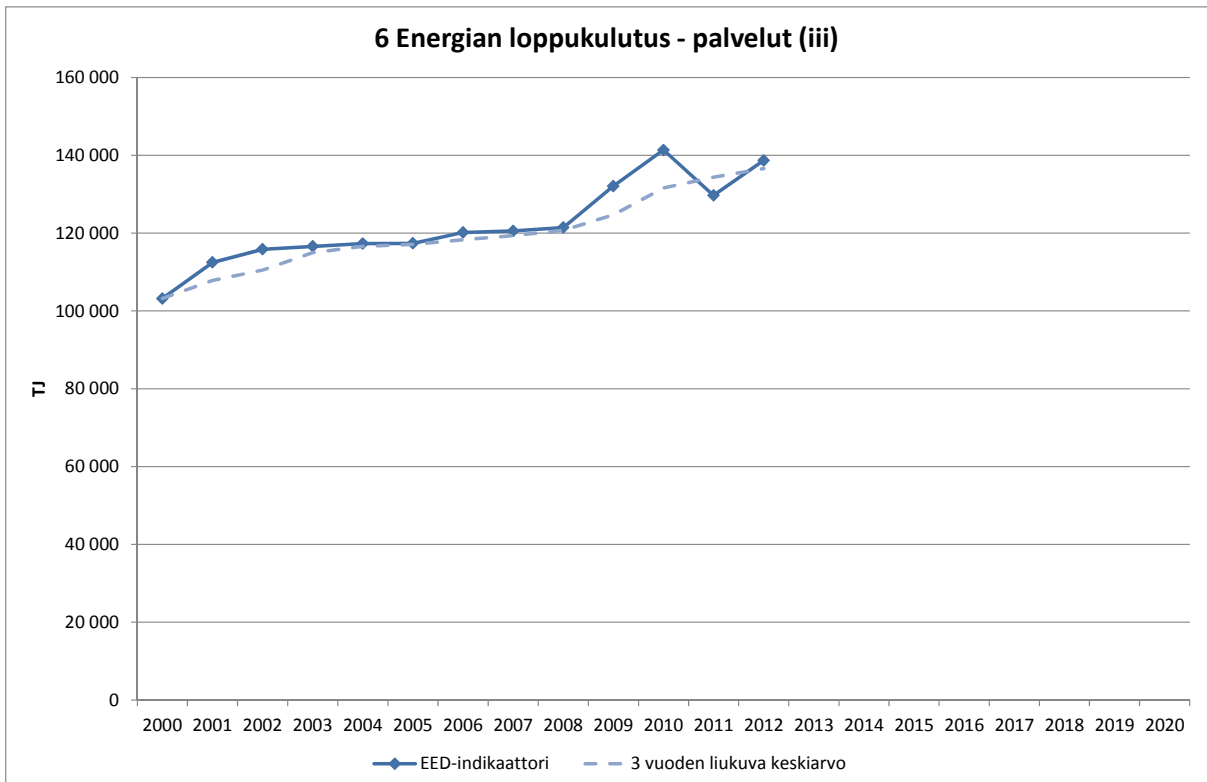


5. Final energy consumption – households (iii)

EED indicator

3-year rolling average

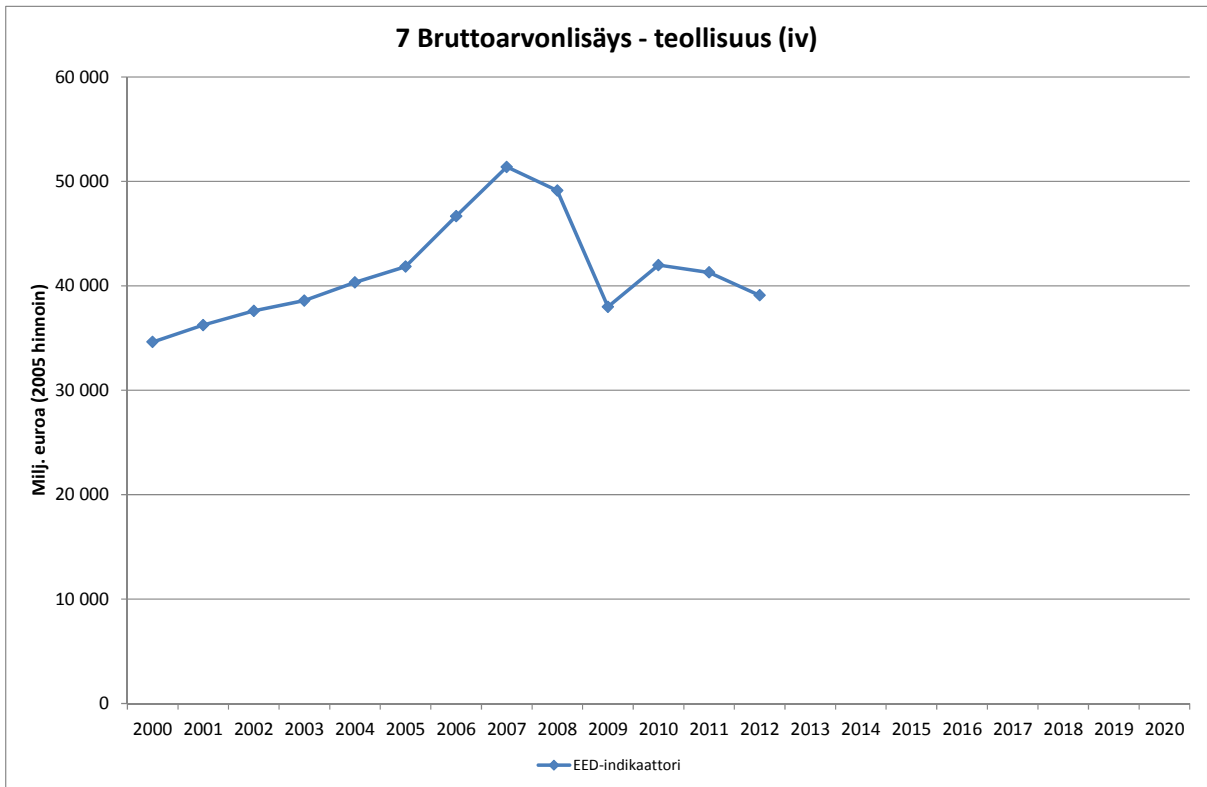
Normalised final consumption



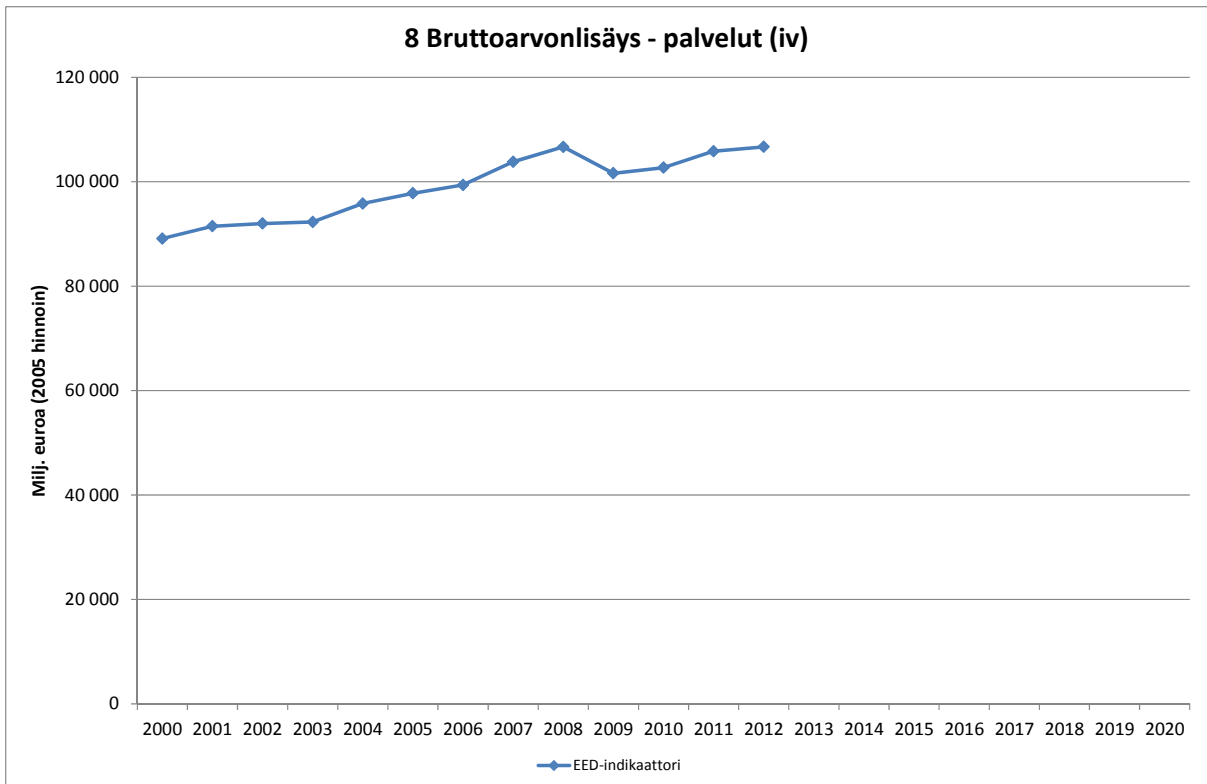
6. Final energy consumption – services (iii)

EED indicator

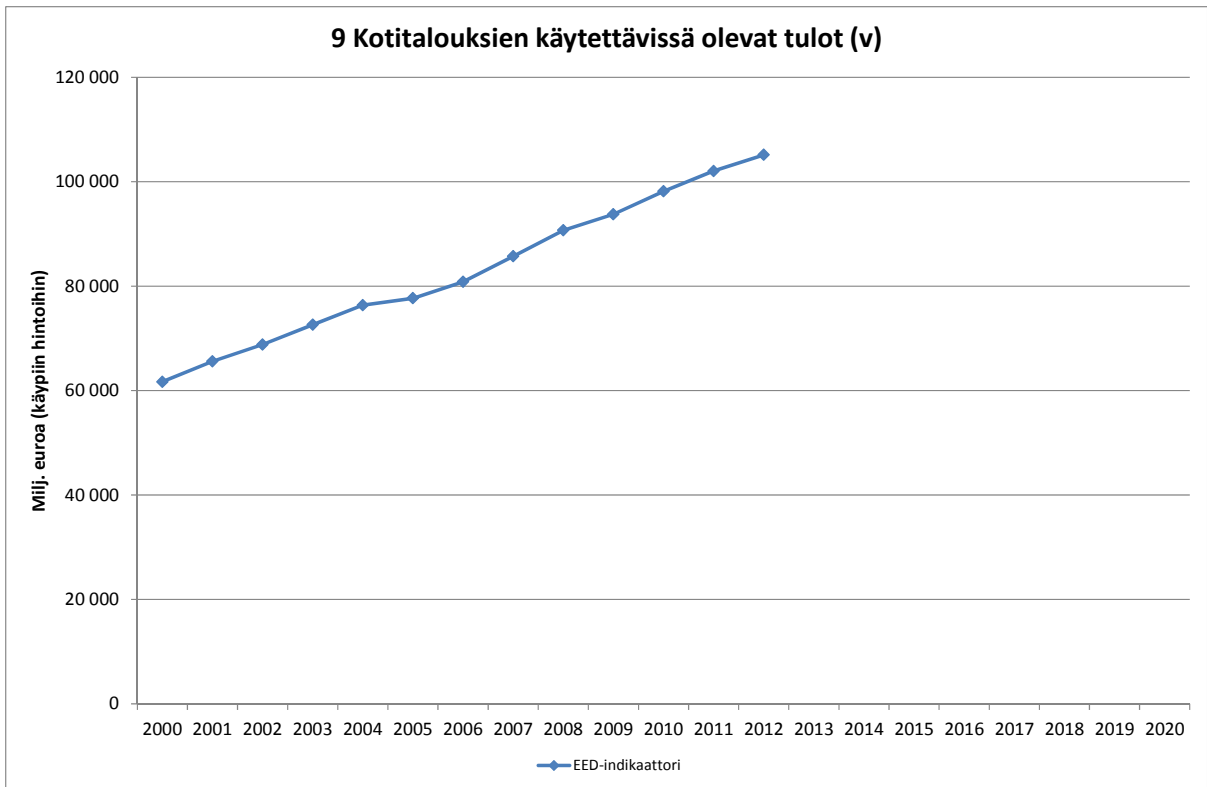
3-year rolling average



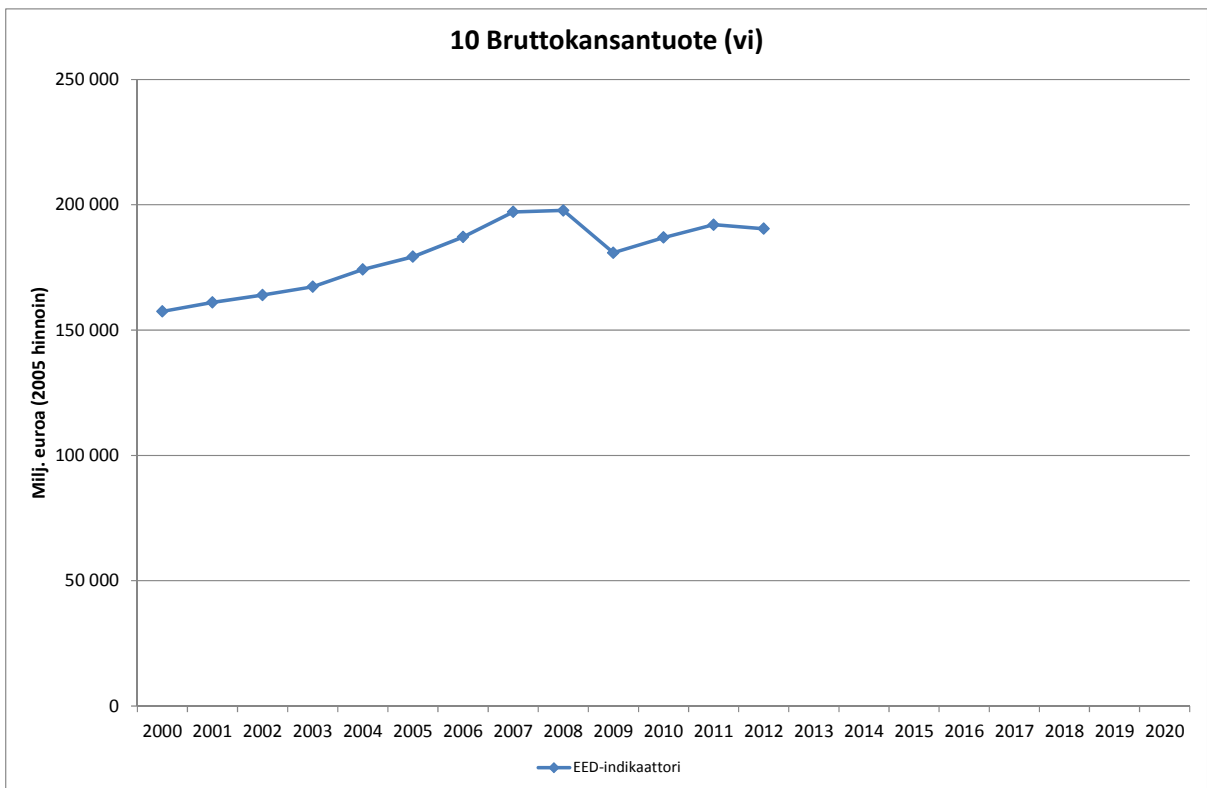
7. Gross value added – industry (iv)
 Million euros (2005 prices)
 EED indicator



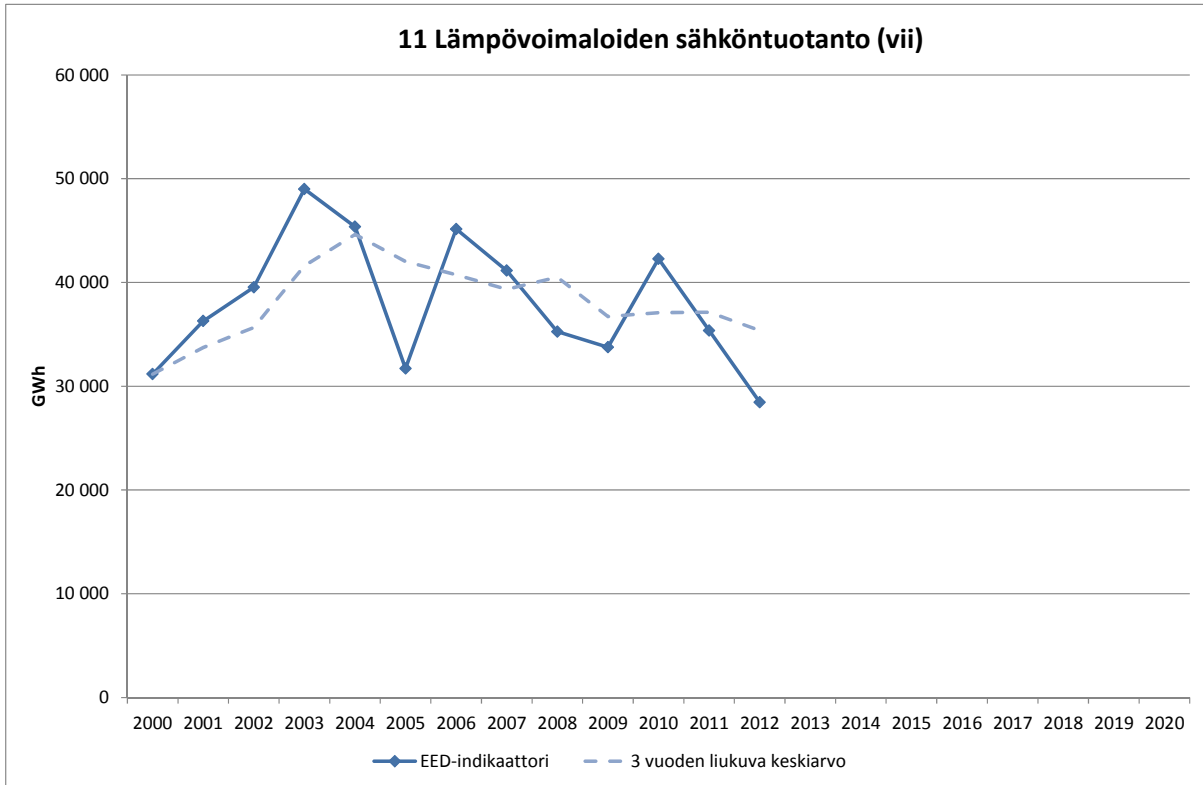
8. Gross value added – services (iv)
 Million euros (2005 prices)
 EED indicator



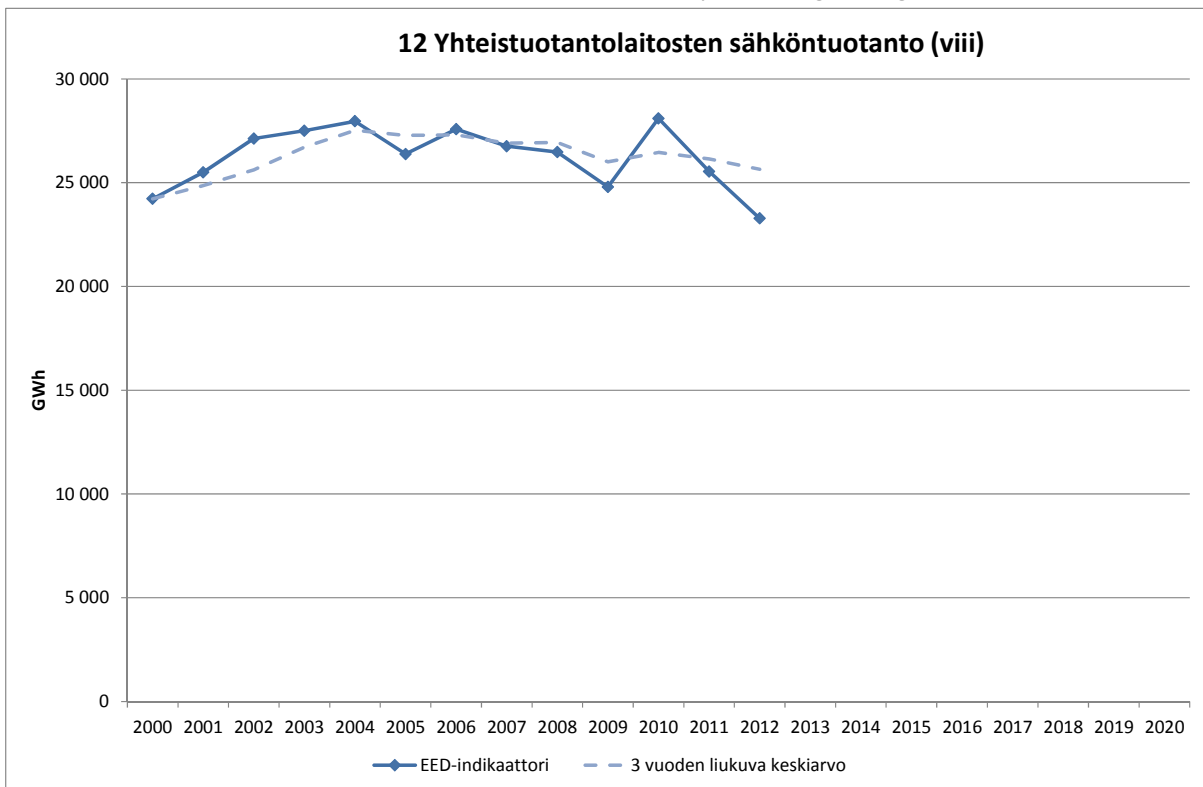
9. Disposable income of households (v)
 Million euros (current prices)
 EED indicator



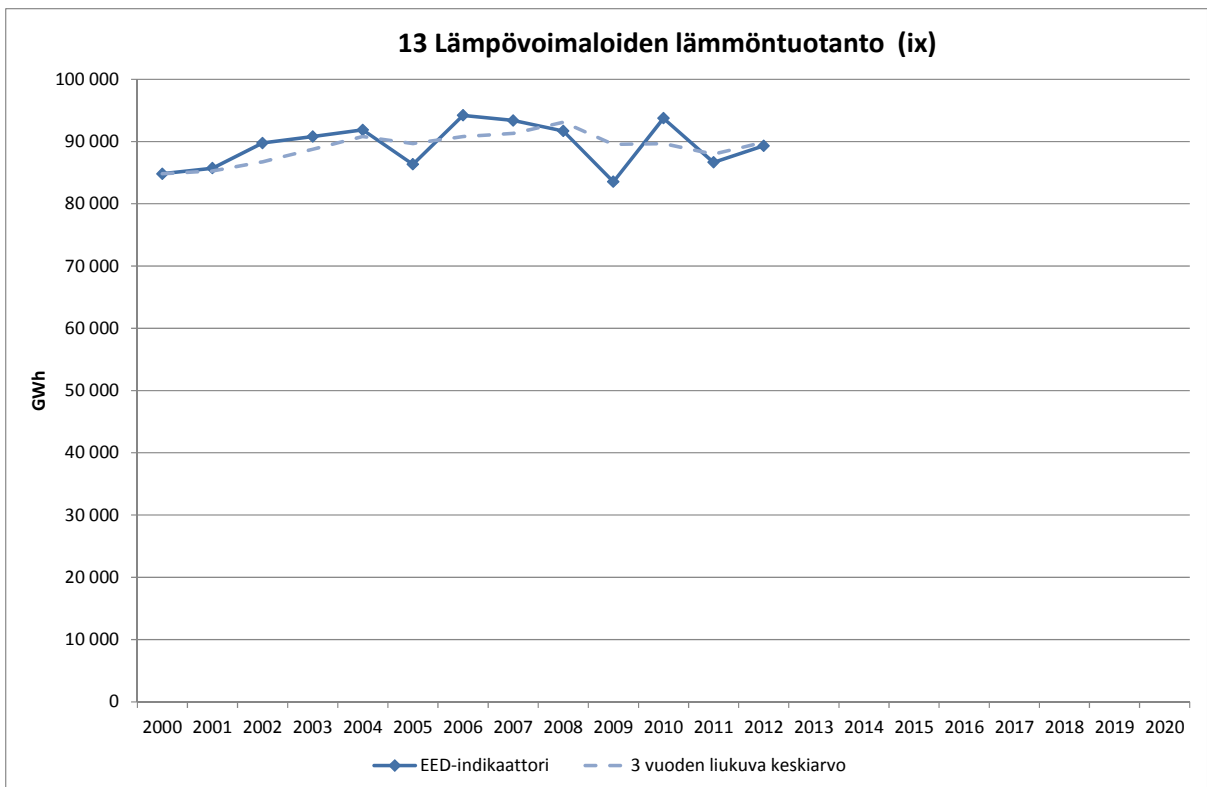
10. Gross domestic product (vi)
 Million euros (2005 prices)
 EED indicator



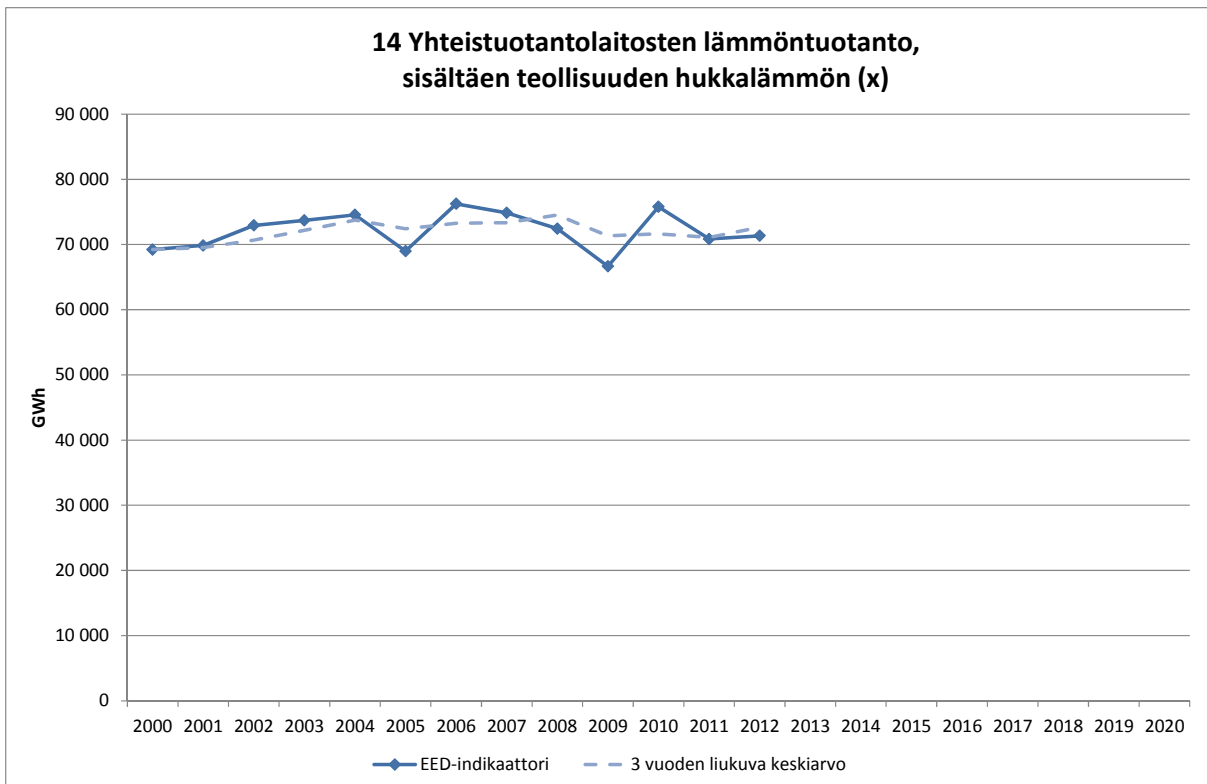
11. Electricity generation from thermal power generation (vii)
EED indicator 3-year rolling average



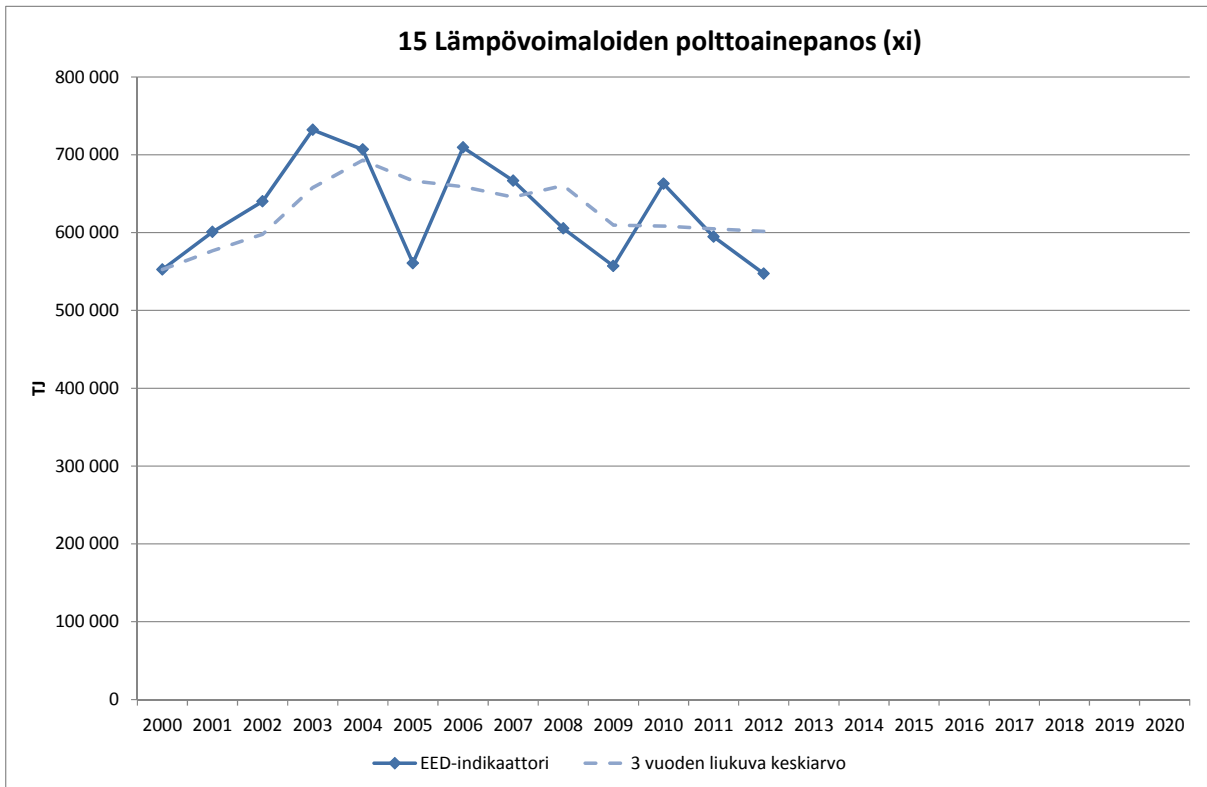
12. Electricity generation from combined heat and power (viii)
EED indicator 3-year rolling average



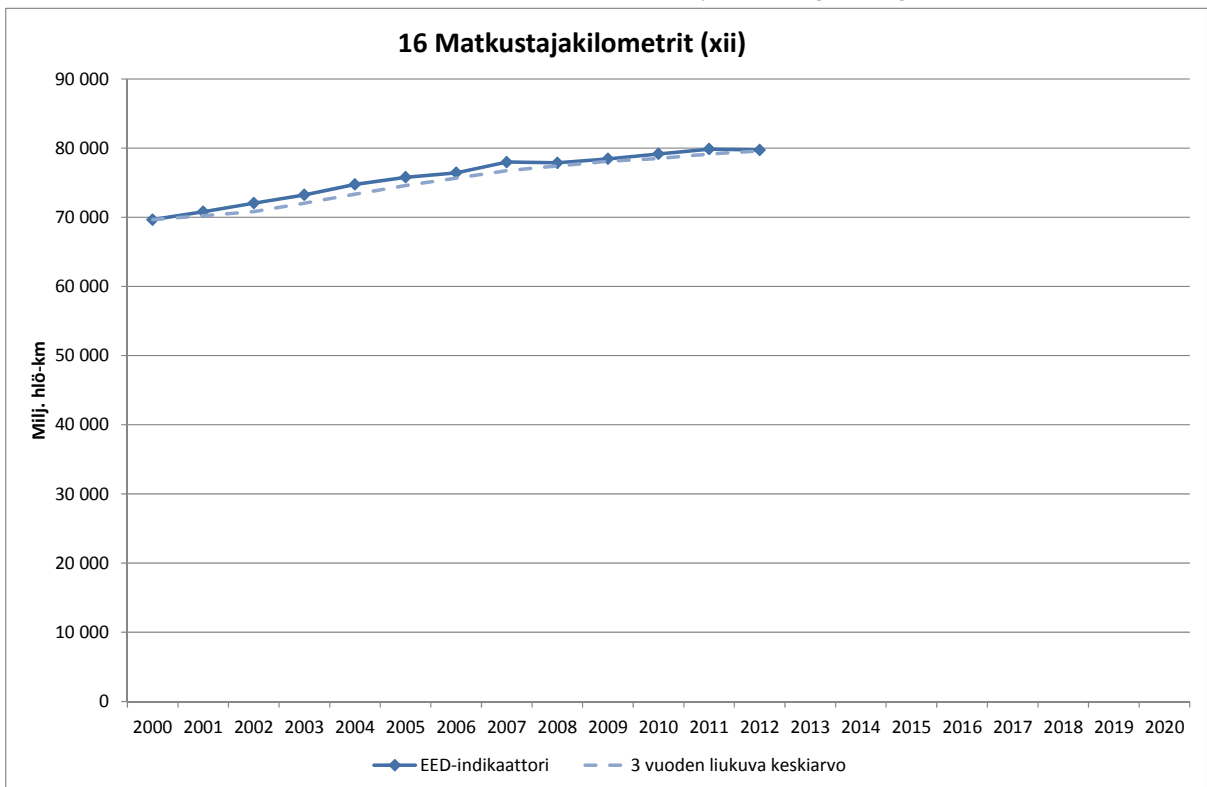
13. Electricity generation from thermal power generation (ix)
EED indicator 3-year rolling average



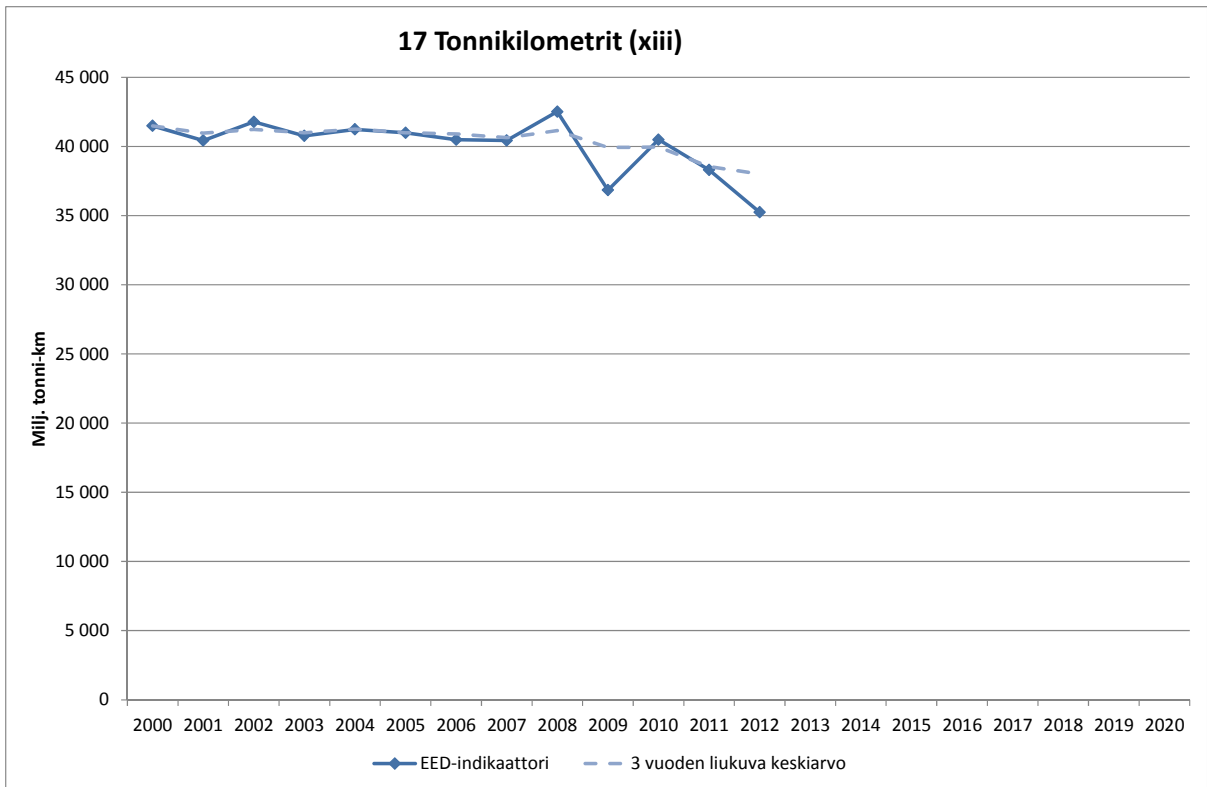
14. Heat generation from combined heat and power plants, including industrial waste heat (x)
EED indicator 3-year rolling average



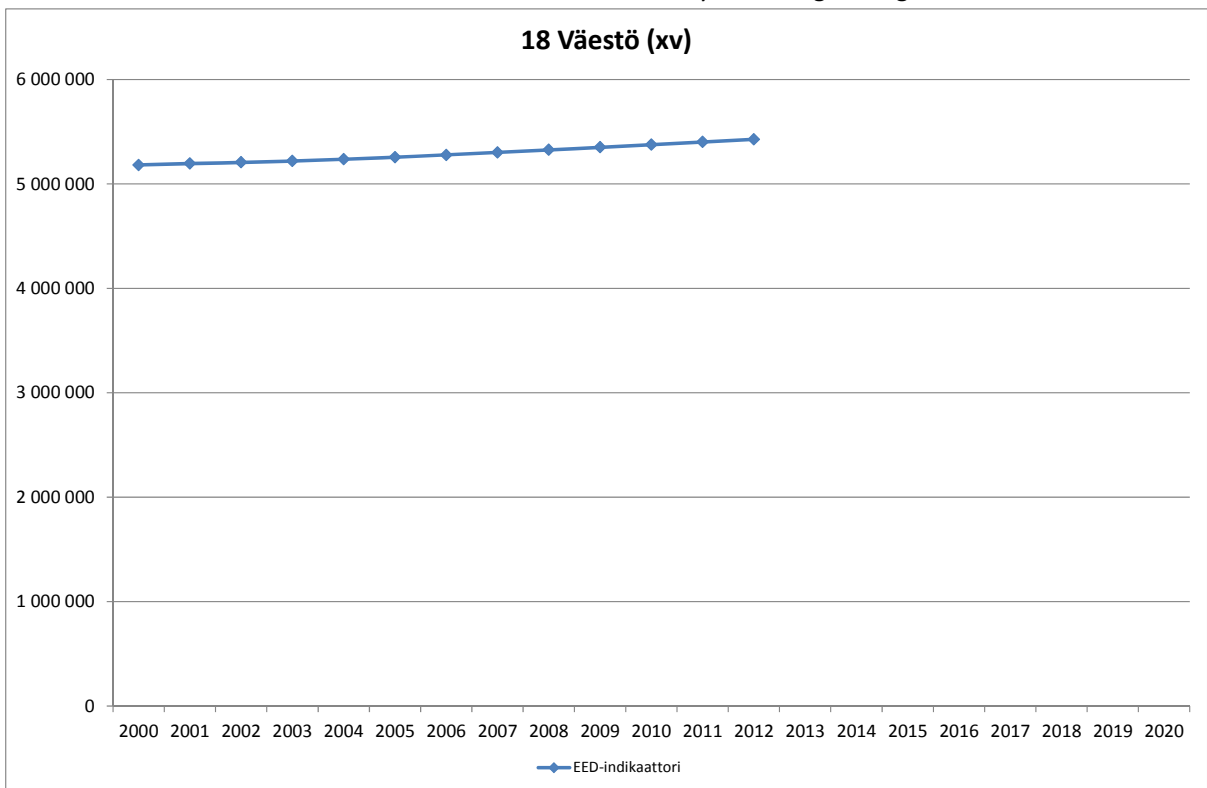
15. Fuel input for thermal power generation (xi)
EED indicator 3-year rolling average



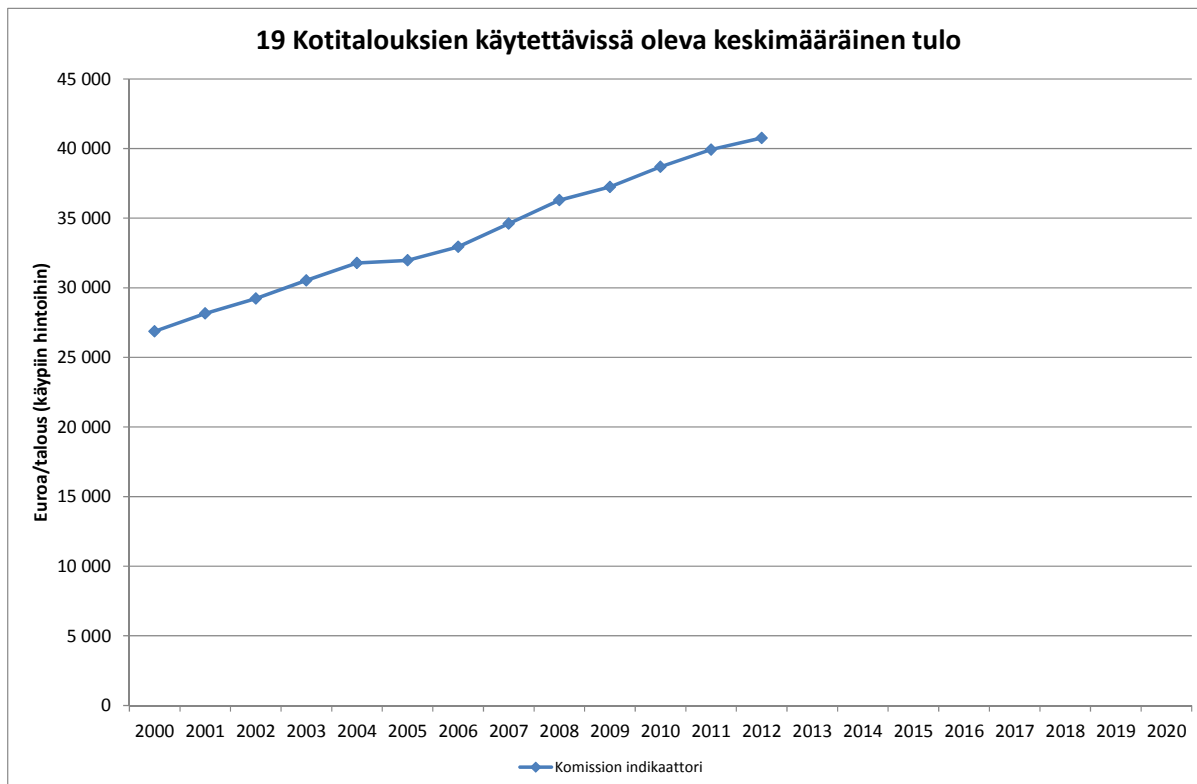
16. Passenger kilometres (xii)
Million Pkm
EED indicator 3-year rolling average



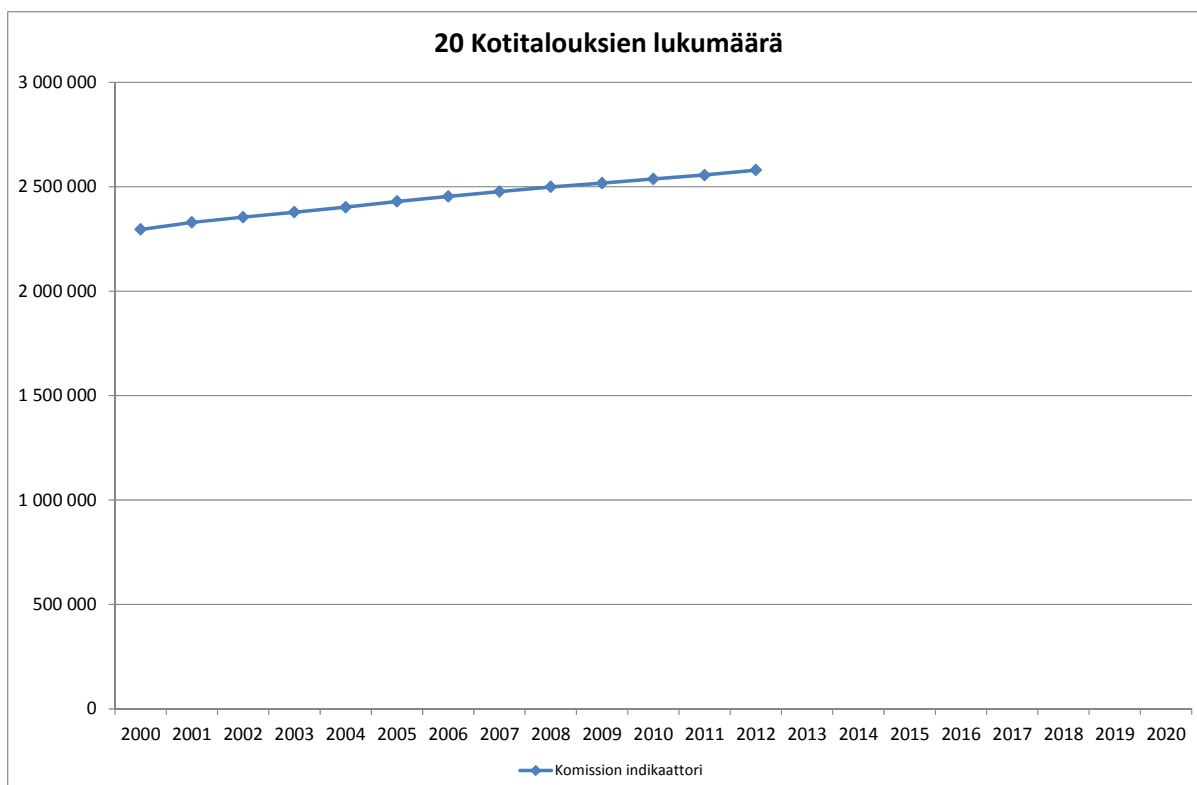
17. Tonne kilometres (xiii)
 Million Tkm
 EED indicator 3-year rolling average



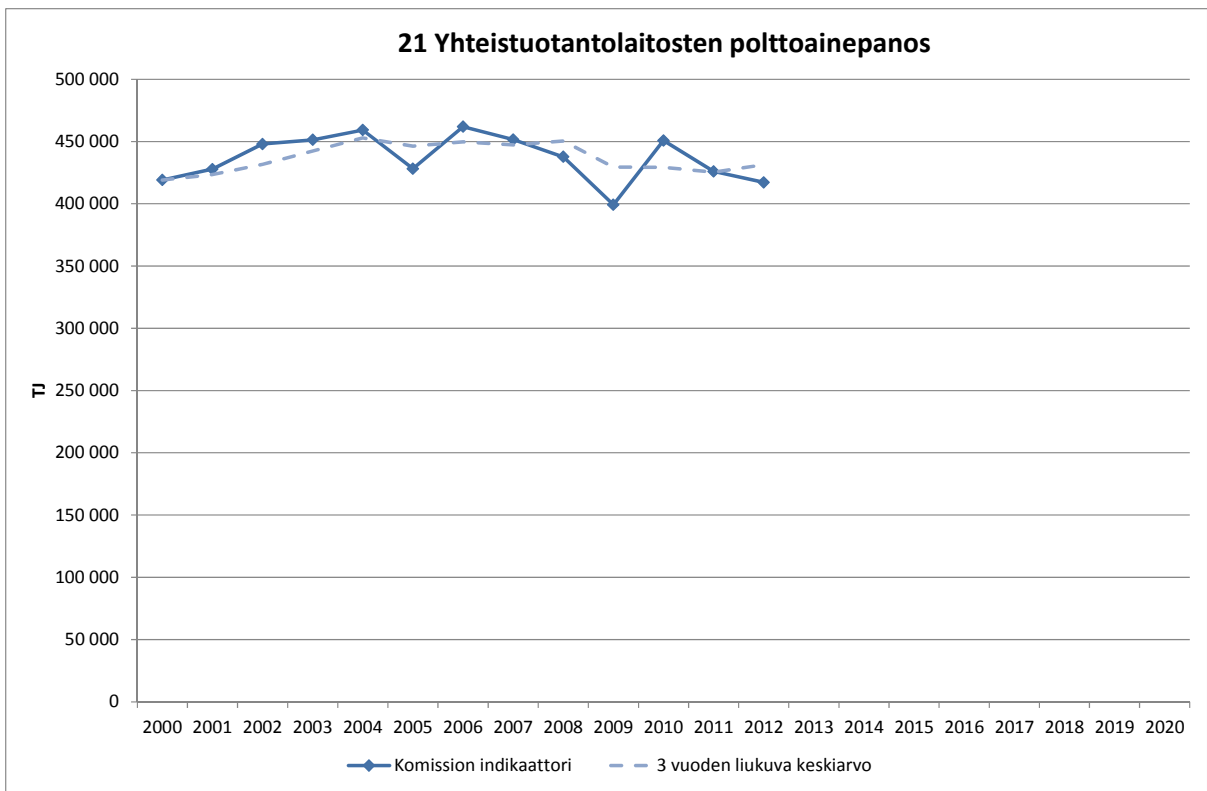
18. Population (xv)
 EED indicator



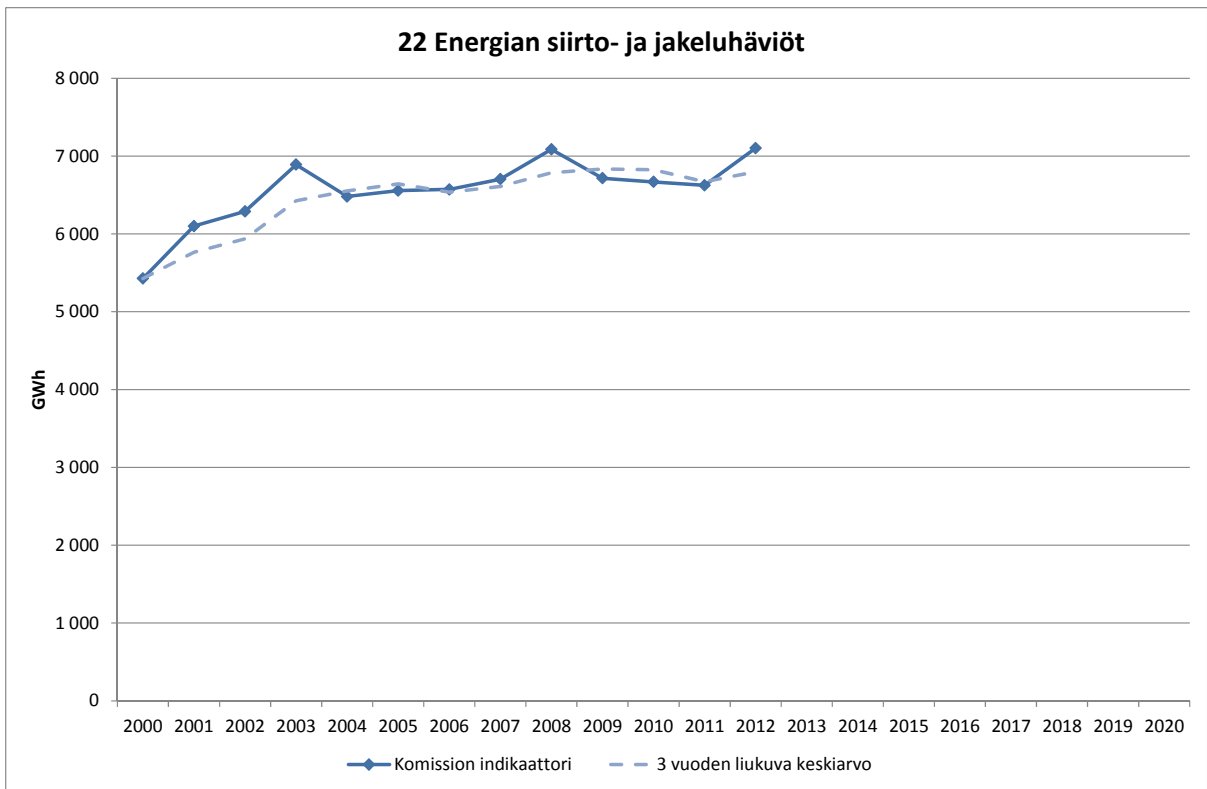
19. Average disposable income of households
EUR/household (current prices)
Commission indicator



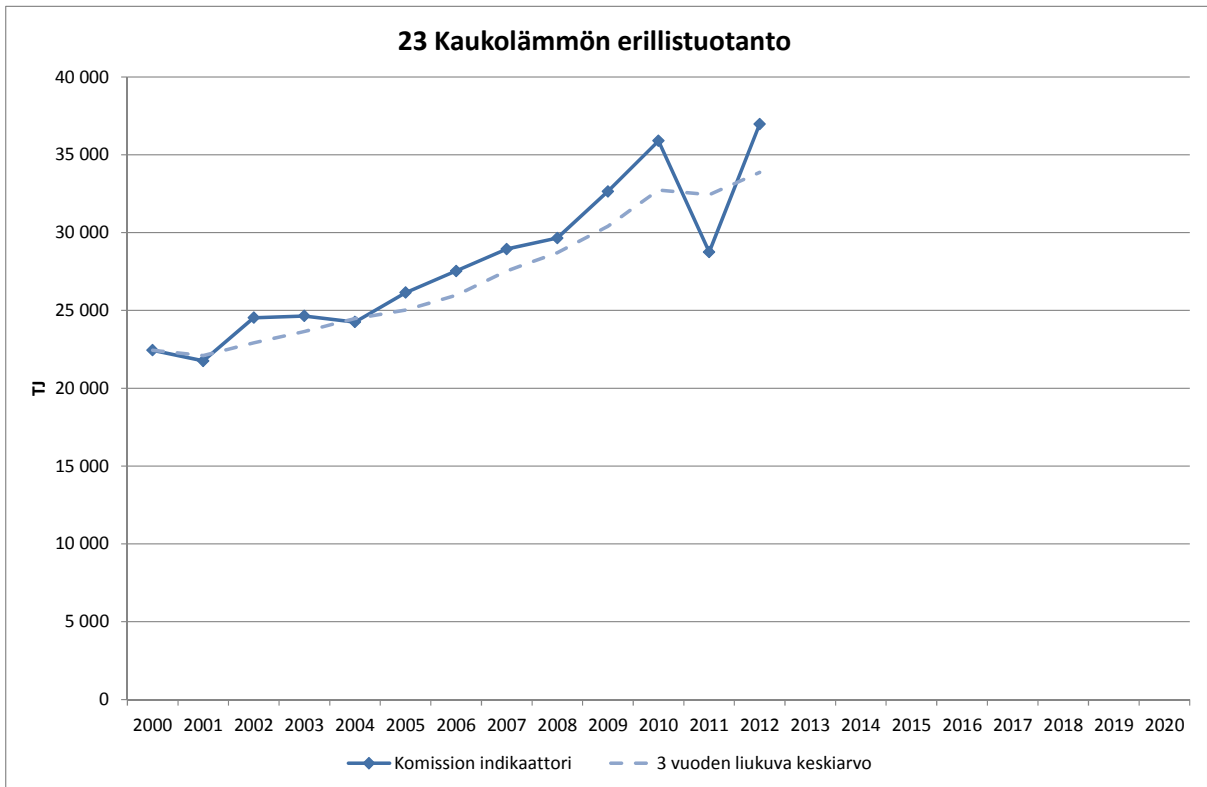
20. Number of households
Commission indicator



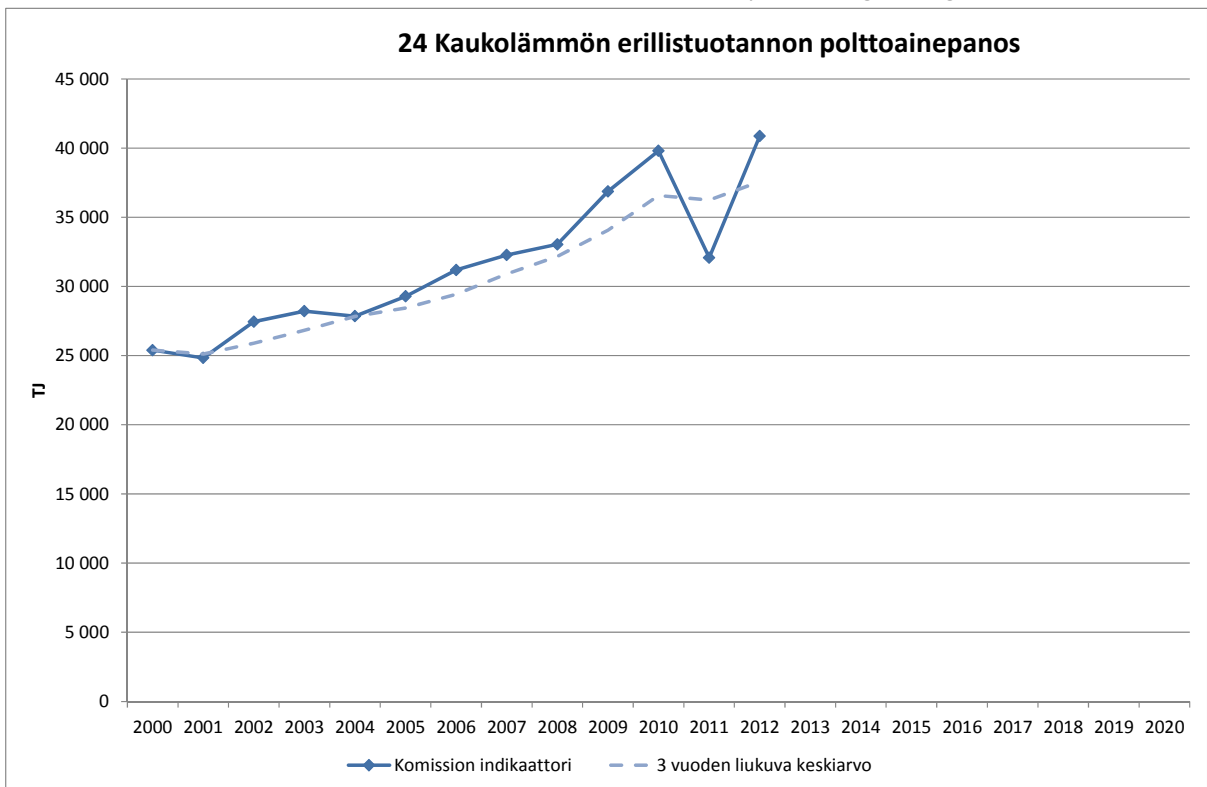
21. Fuel input for combined heat and power
 Commission indicator 3-year rolling average



22. Energy transmission and distribution losses
 Commission indicator 3-year rolling average



23. Heat generation from district heating plants
 Commission indicator 3-year rolling average



24. Fuel input for district heating plants
 EED indicator 3-year rolling average