



ODYSSEE-MURE

ODYSSEE-MURE fit4-55 (2022-2025)

Evolution of sufficiency policies in Poland
17 February 2025

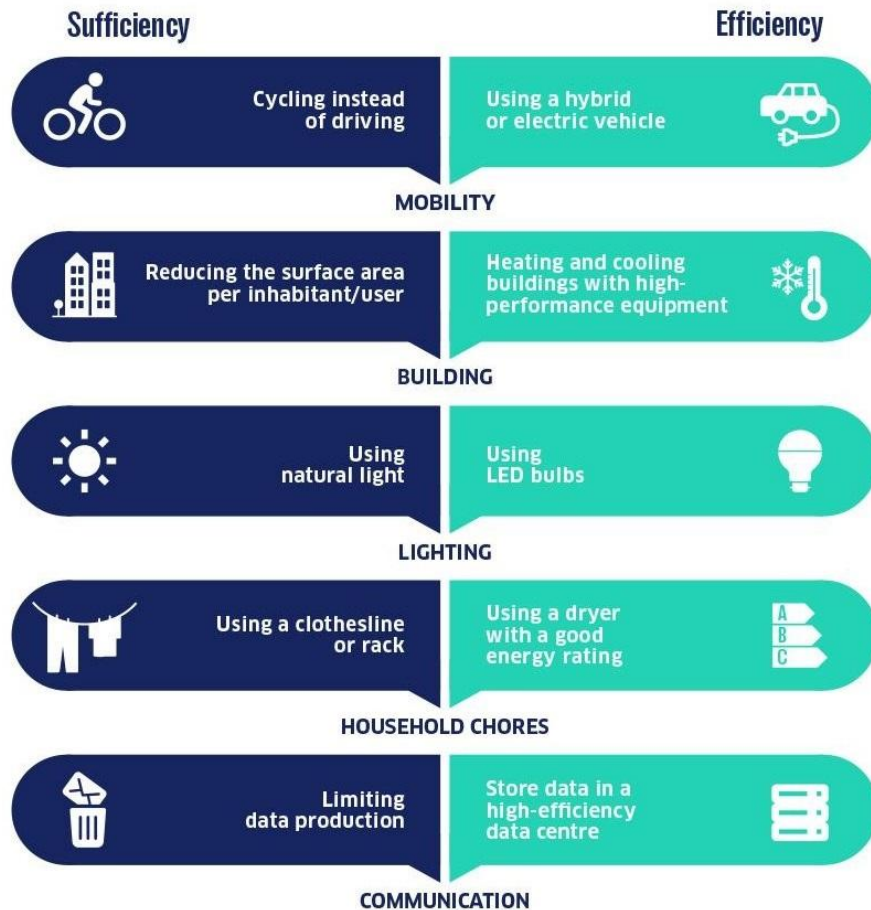
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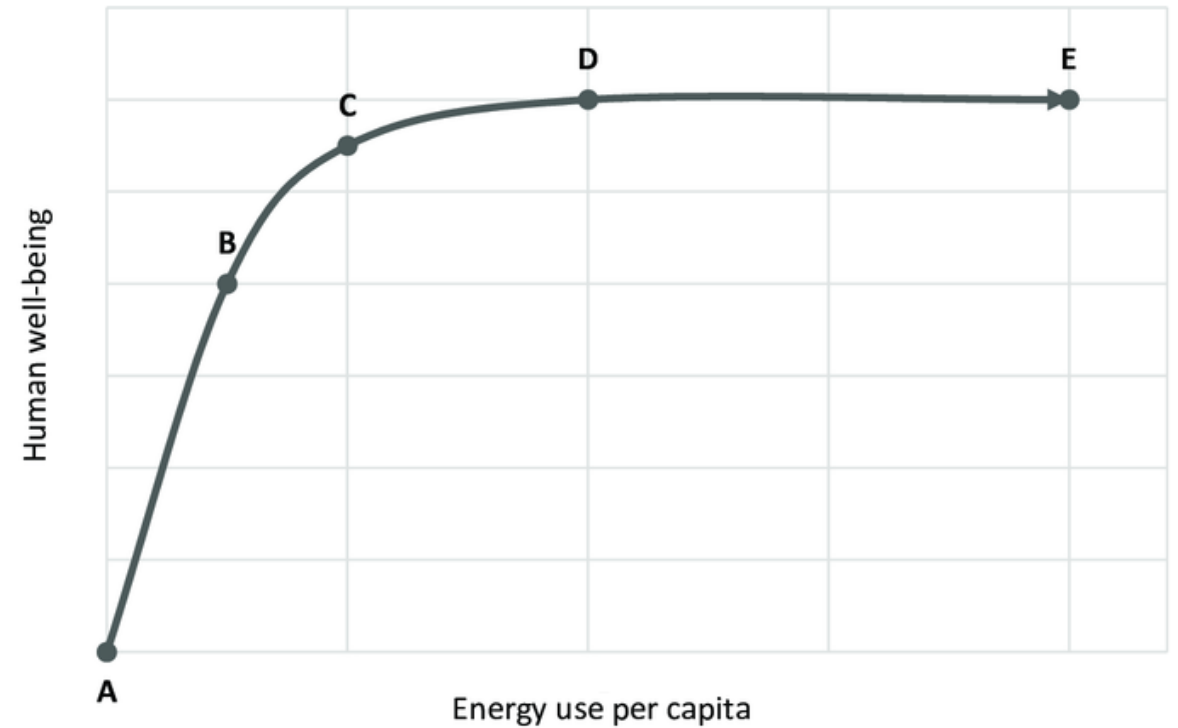
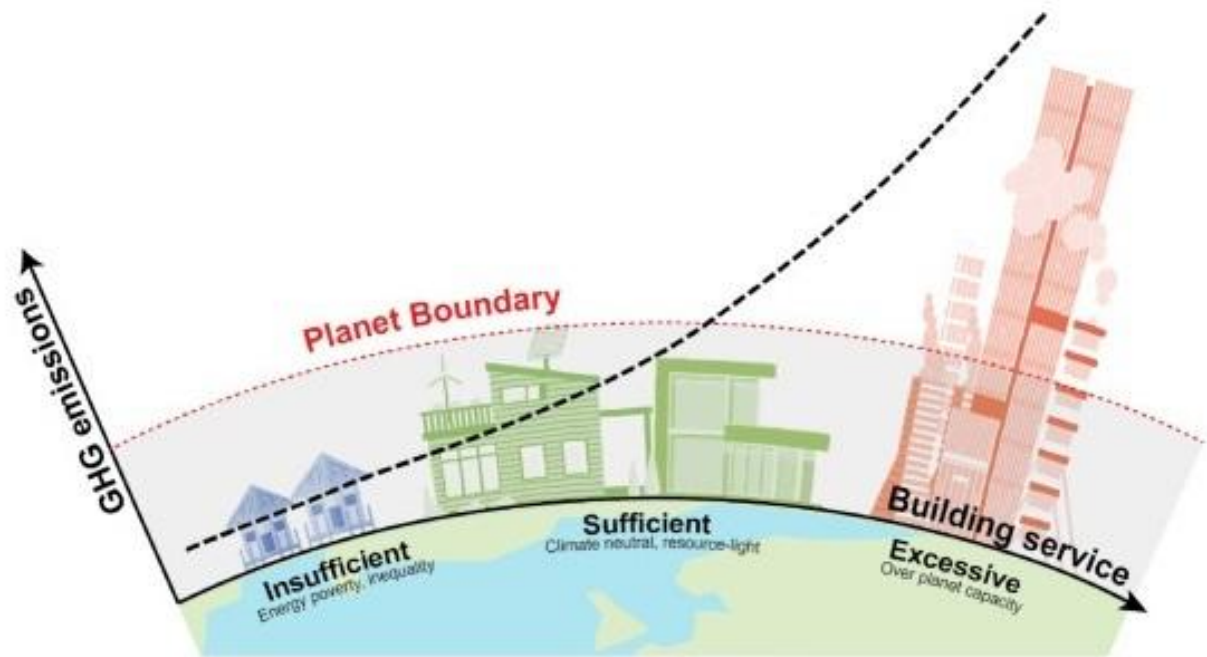
What is energy sufficiency ?



- Energy sufficiency is a voluntary approach to reducing energy and resource consumption based on behavioral changes, lifestyle, and collective organization. Contrary to energy efficiency, which relies on technology.
- The Club of Rome’s famous Limits to Growth report argued that “*confidence in technology as the ultimate solution to all problems diverts our attention from the most fundamental problem: growth in a finite system*”. But rather than disregard technology – efficiency is after all the second pillar of the energy transition – we must recognize sufficiency’s place as a social innovator.

What is energy sufficiency ?

- The goal is to reach a system where everyone has enough energy to cover their need and live comfortably, but not using too much to point of exceeding the limit of our environment.

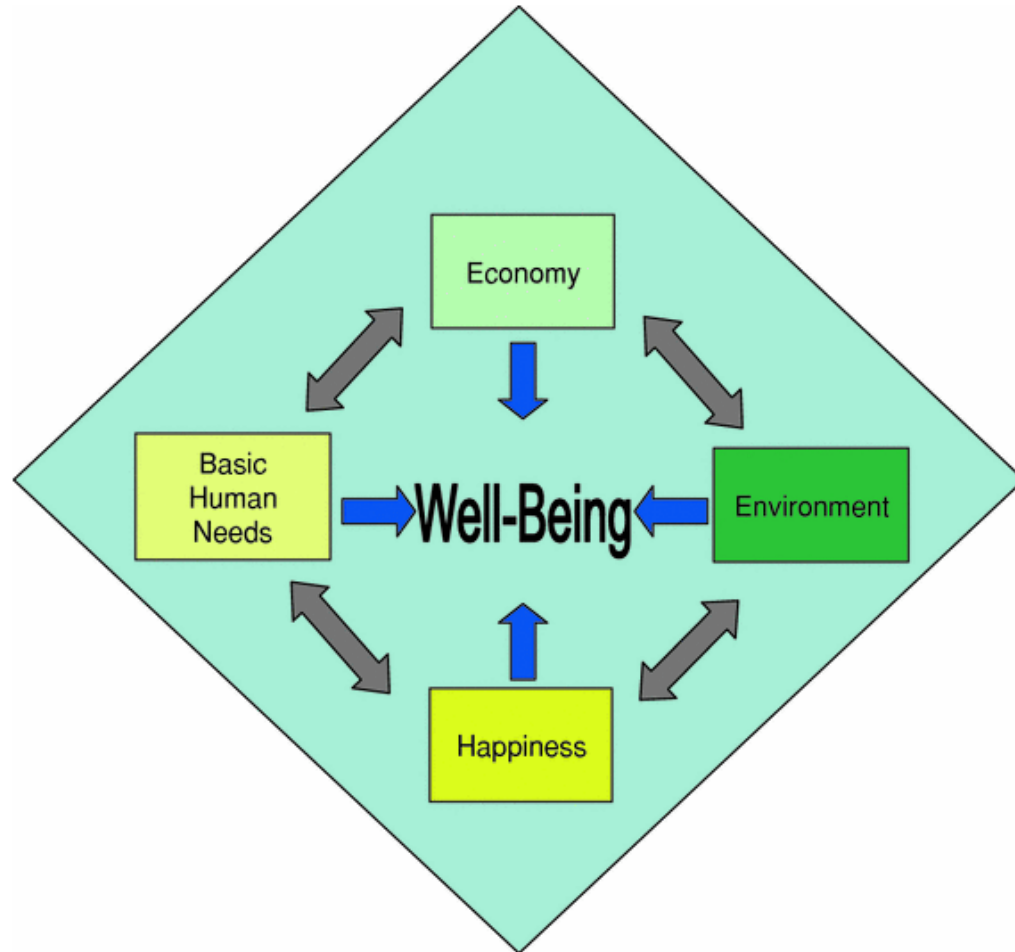


A few words about well-being



- Human well-being is a broad concept, one that includes many aspects of our everyday lives. It encompasses material well-being, relationships with family and friends, and emotional and physical health. It includes work and recreation, how one feels about one's community, and personal safety.

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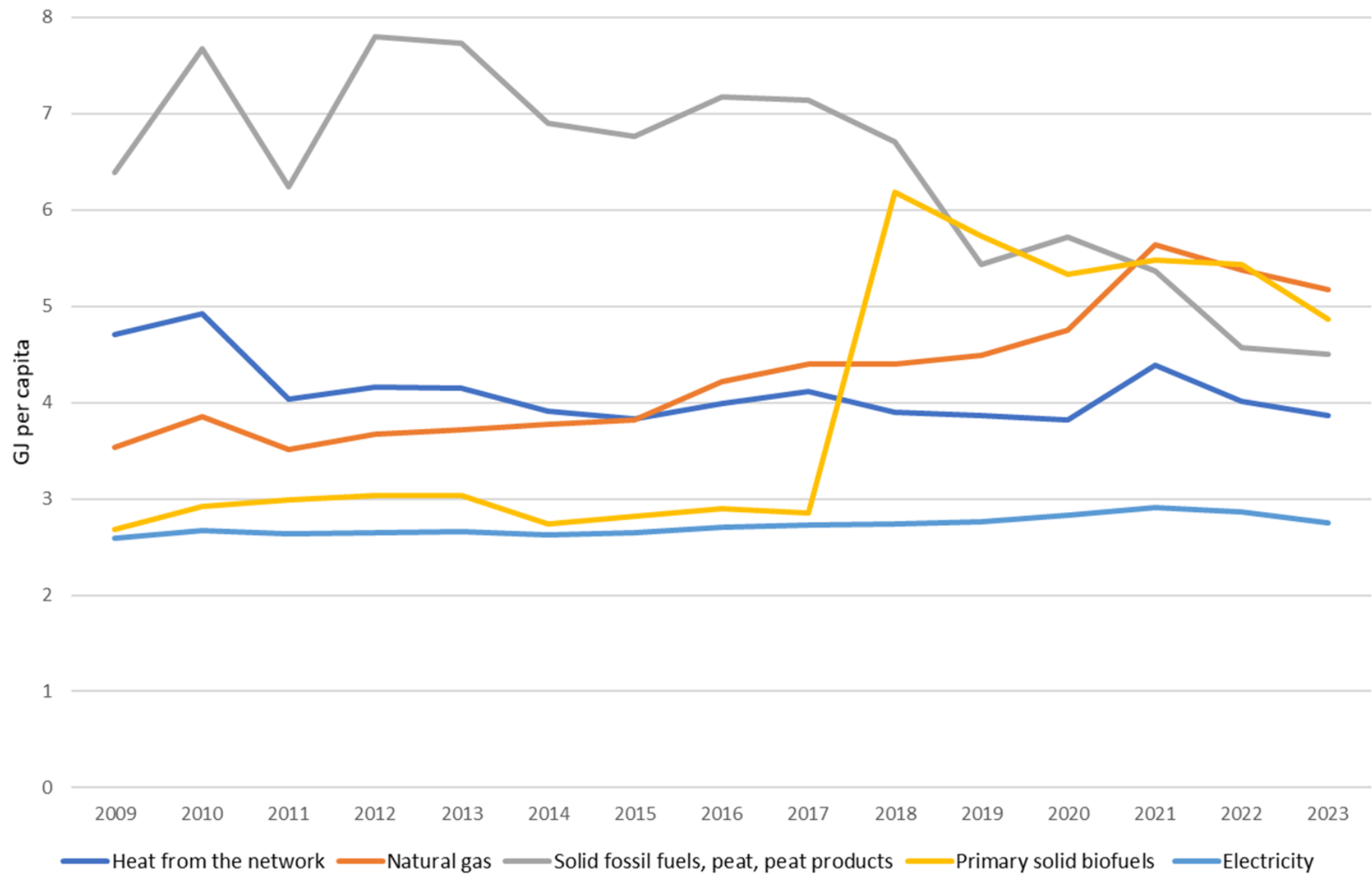
Programs implemented in Poland (1)

Sector	Title	EU	Type	Starting Year
Household	Requirements for new and modernised buildings	No	Mandatory standards	2014
Household	EU-related: Energy Performance of Buildings (Directive 2002/91/EC) – Certificates of Energy performance for buildings	Yes	General programme	2009
Household	„Clean Air”	No	Financial	2018
Household	„My Electricity”	No	Financial	2019
Household	Thermo-modernization tax relief	No	Fiscal	2019
Household	Energy Efficient Construction	No	Financial	2016
Household	STOP SMOG	No	Financial	2019
Household	Warm Housing	No	General programme	2022
Household	My Heat	No	Financial	2022
Household	Improving air quality by replacing heat sources in multifamily buildings – pilotage	No	Financial	2021
Household	Improving air quality in the most polluted municipalities - pilot	No	Financial	2021

Programs implemented in Poland (2)

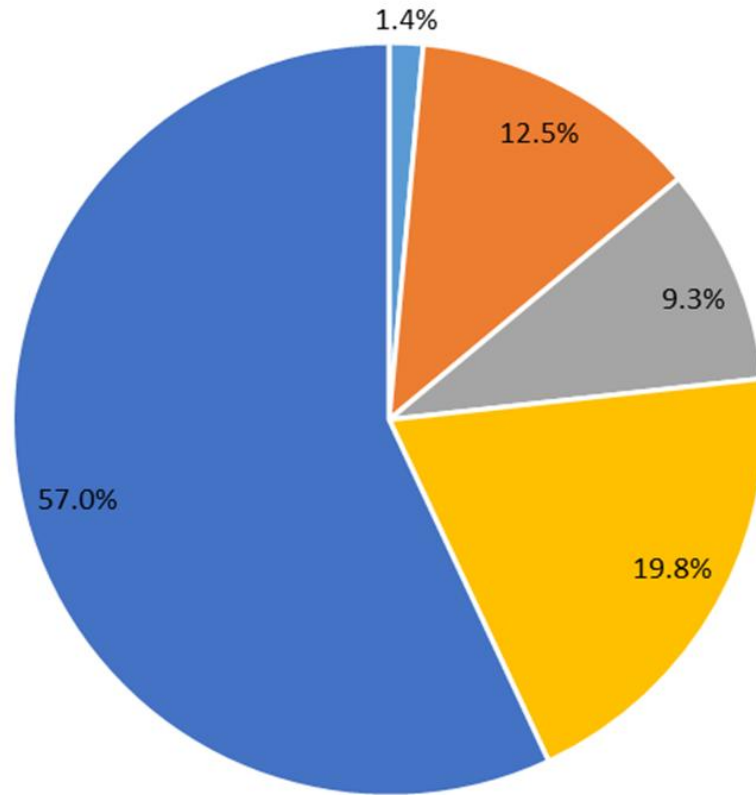
Sector	Title	EU	Type	Starting Year
Transport	Green Public Transport (Phase 1)	No	Financial, Others	2021
Transport	Developing electricity infrastructure for the development of electric vehicle charging stations	No	General programme	2021
Transport	My electric vehicle	No	Financial	2021
General cross-cutting	Green certificates for electricity production from renewable Energy sources	No	Market-based instruments	2005
General cross-cutting	System of white certificates – Energy efficiency Act	No	Market-based instruments	2013
General cross-cutting	Thermomodernisation Fund	No	Financial	1999
General cross-cutting	Priority access of renewables to the electricity grid	No	Mandatory standards	2005
General cross-cutting	New Energy	No	General programme	2020
General cross-cutting	Energy Plus	No	General programme	2019
General cross-cutting	Energy for the countryside	No	General programme	2022
General cross-cutting	Renovation with guaranteed EPC (Energy Performance Contract) Plus savings	No	General programme	2021

Households energy consumption



Households energy consumption

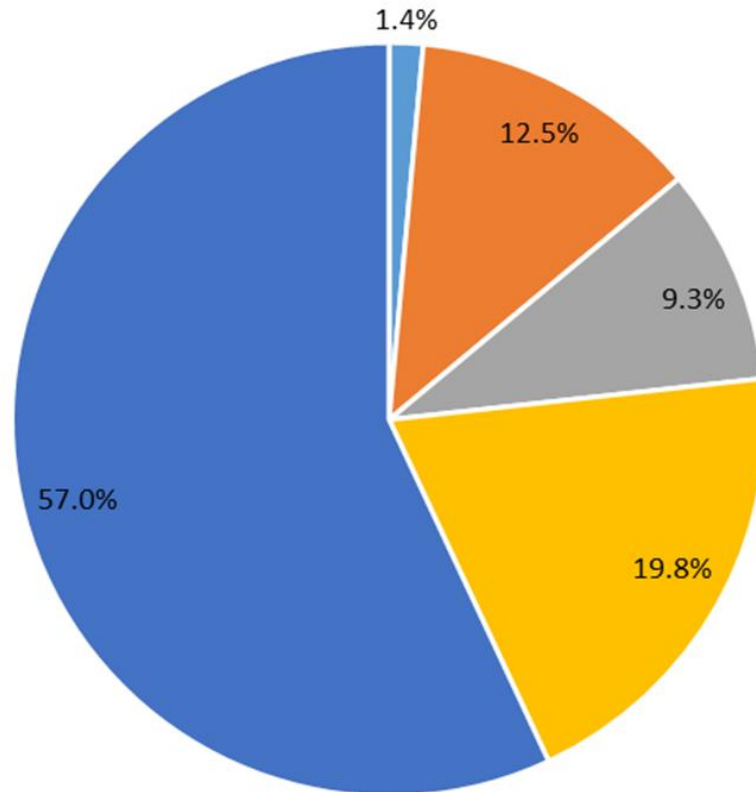
Solid fuel boilers by boiler class



■ Eco Project ■ class 5 ■ class 4 ■ class 3 ■ below class 3 or no information

Households energy consumption

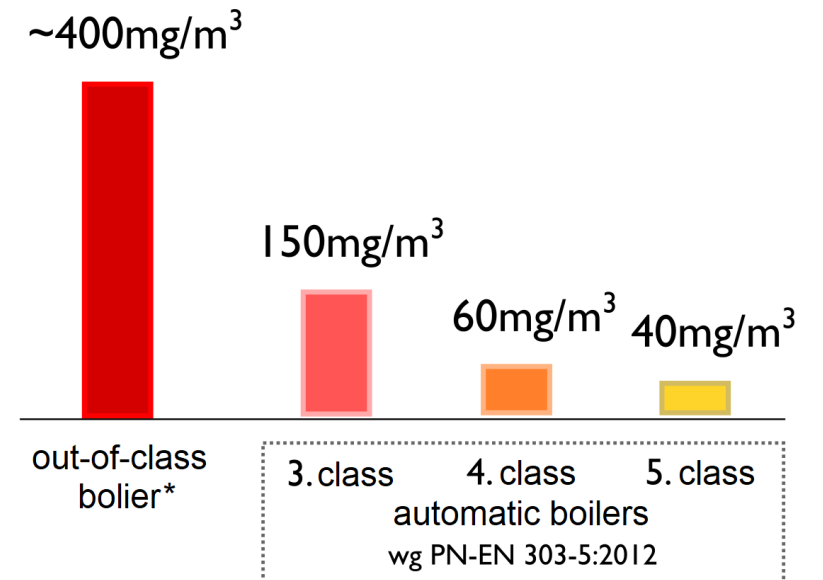
Solid fuel boilers by boiler class



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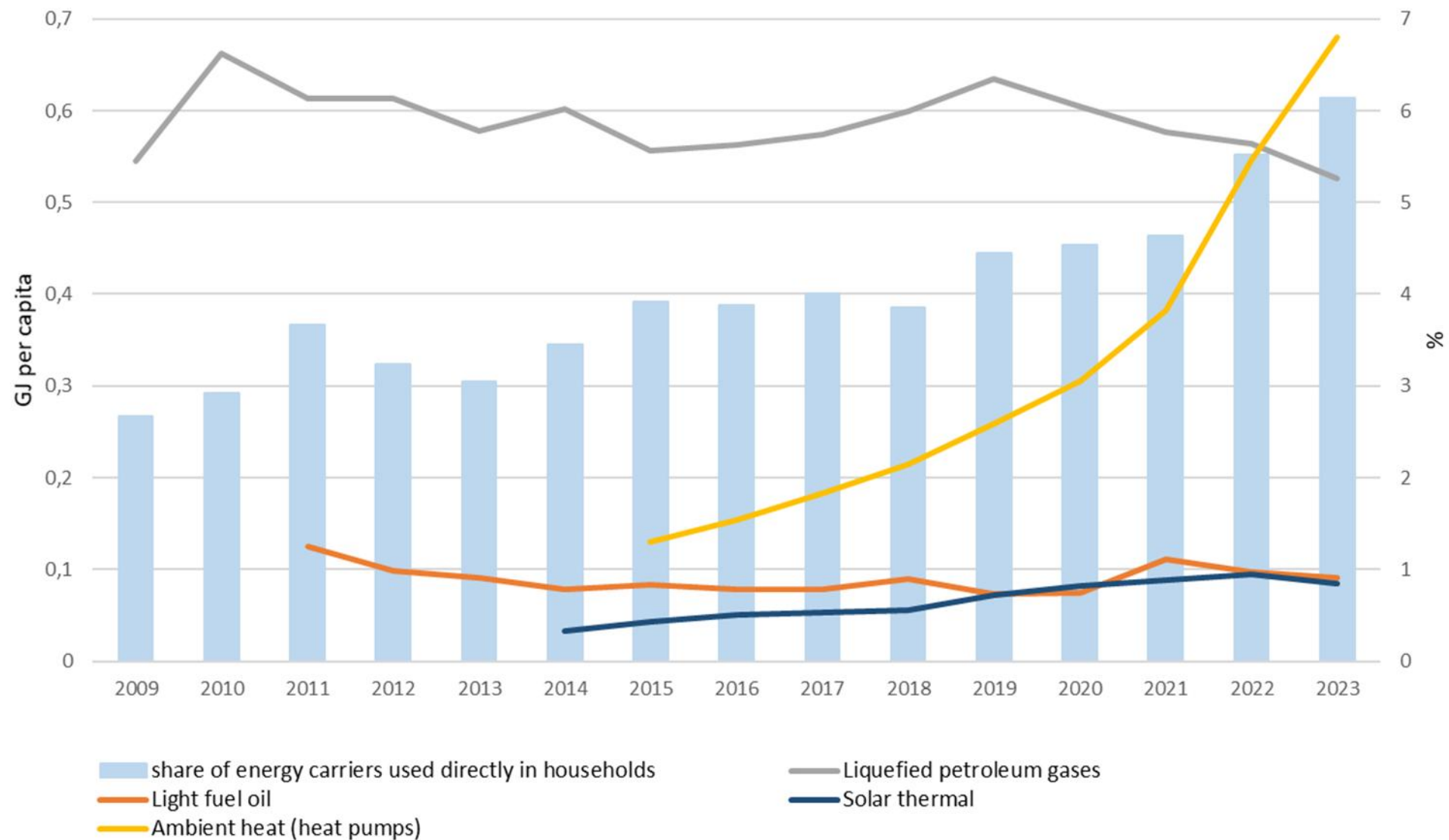


Dust emissions from coal-fired boilers

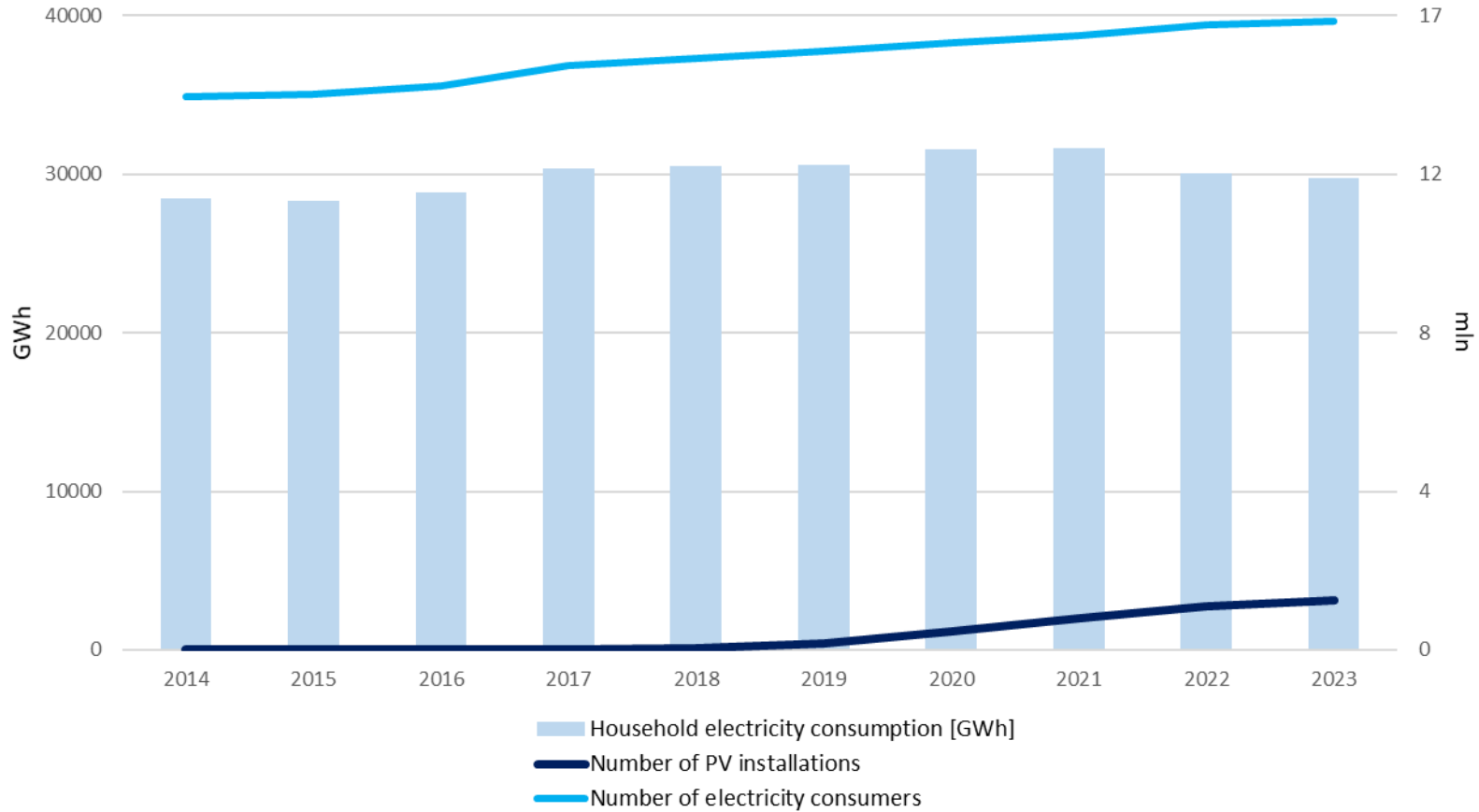


* EMEP/EEA emission inventory guidebook 2013, I.A.4 Small combustion

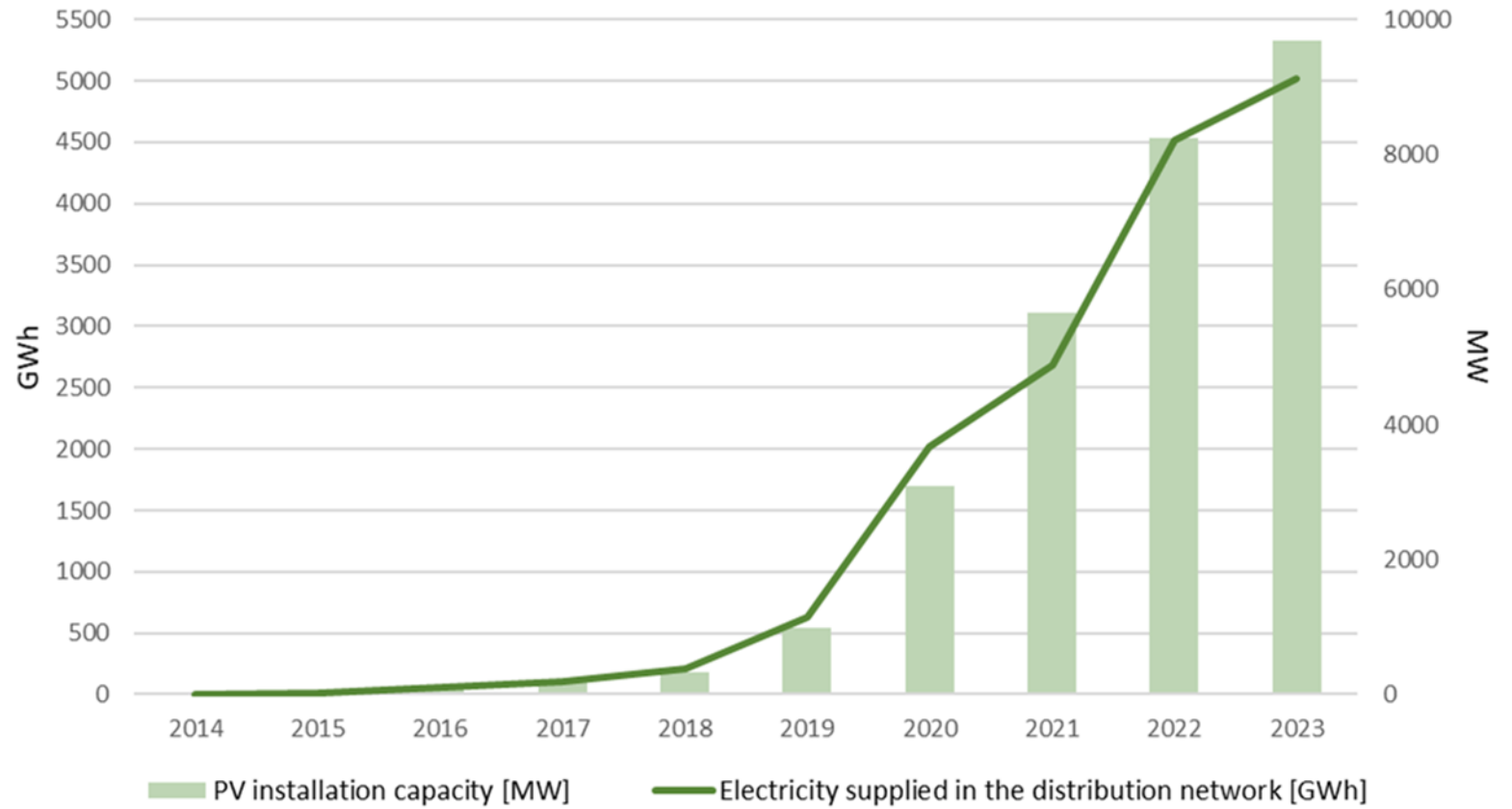
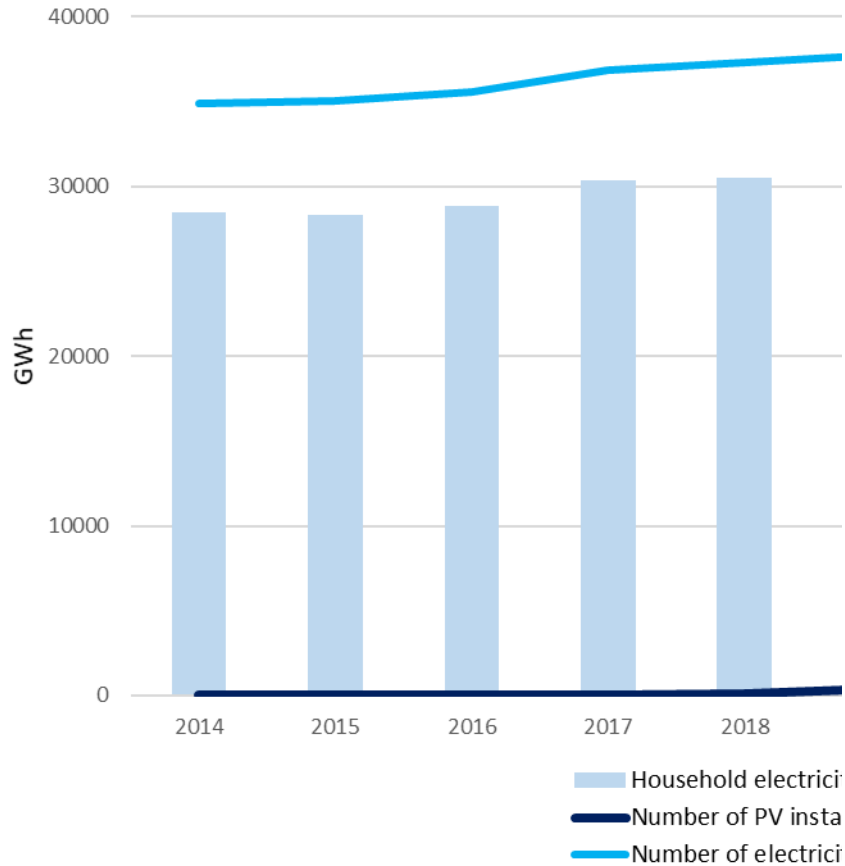
Households energy consumption



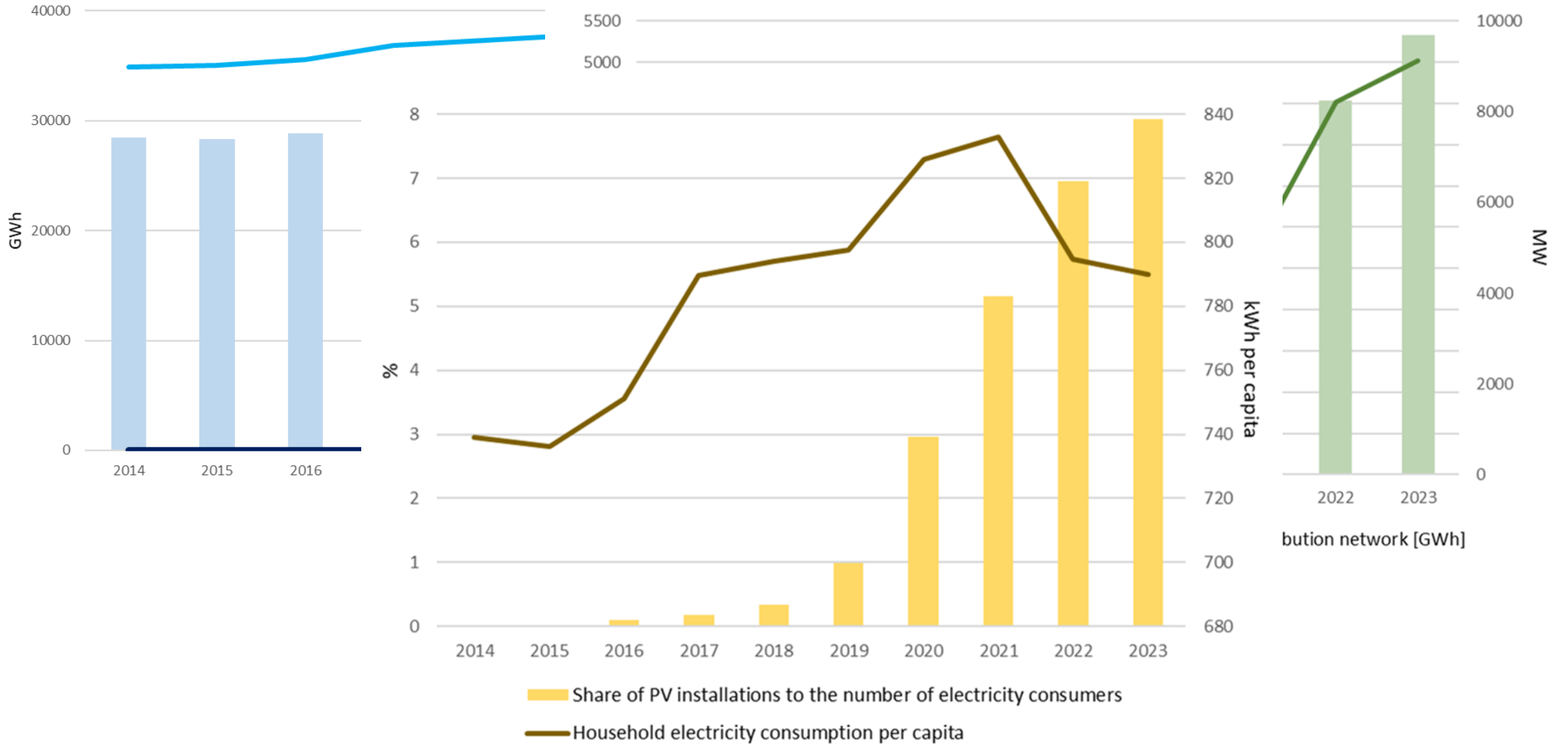
Electric energy consumption



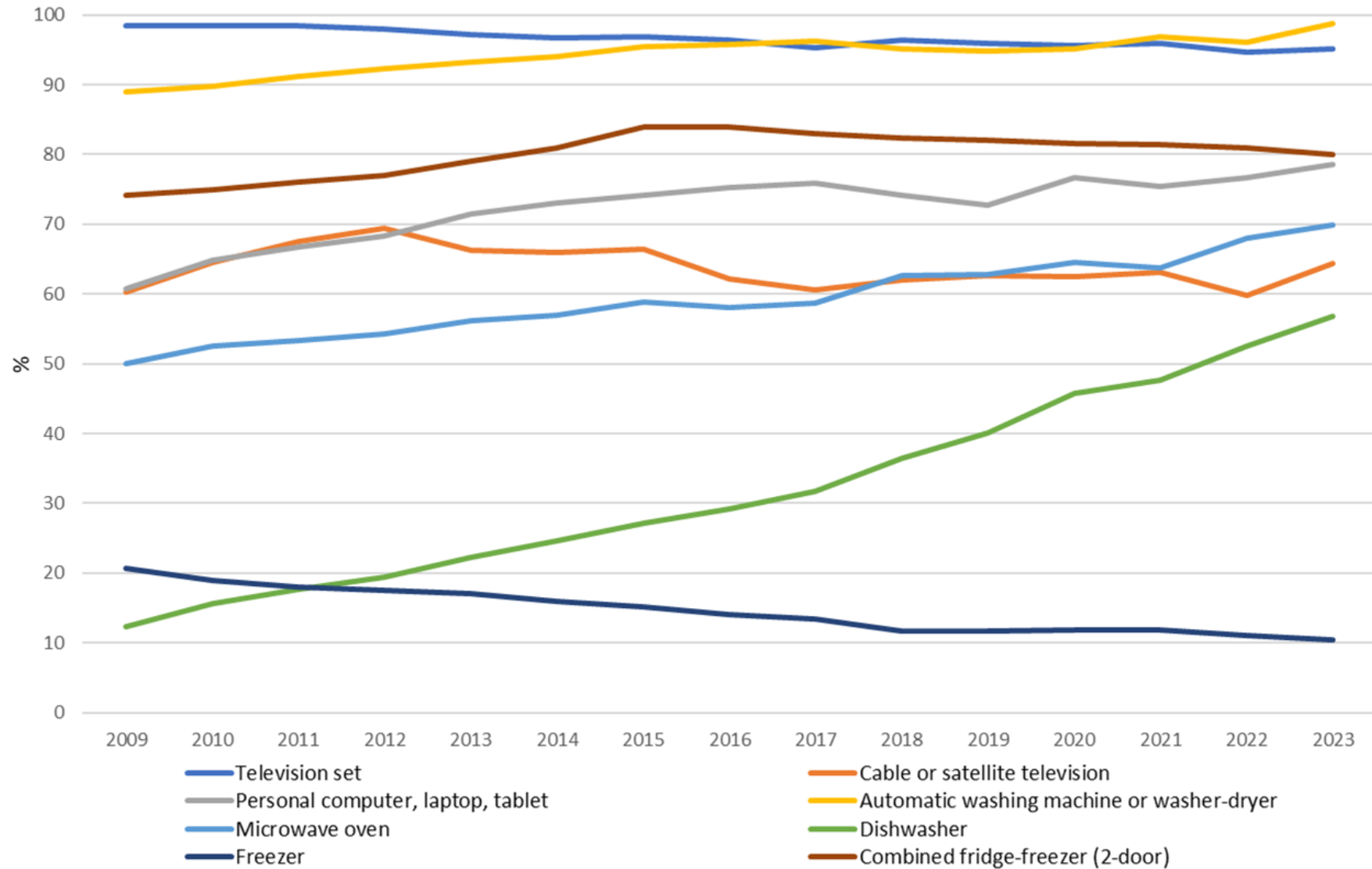
Electric energy consumption



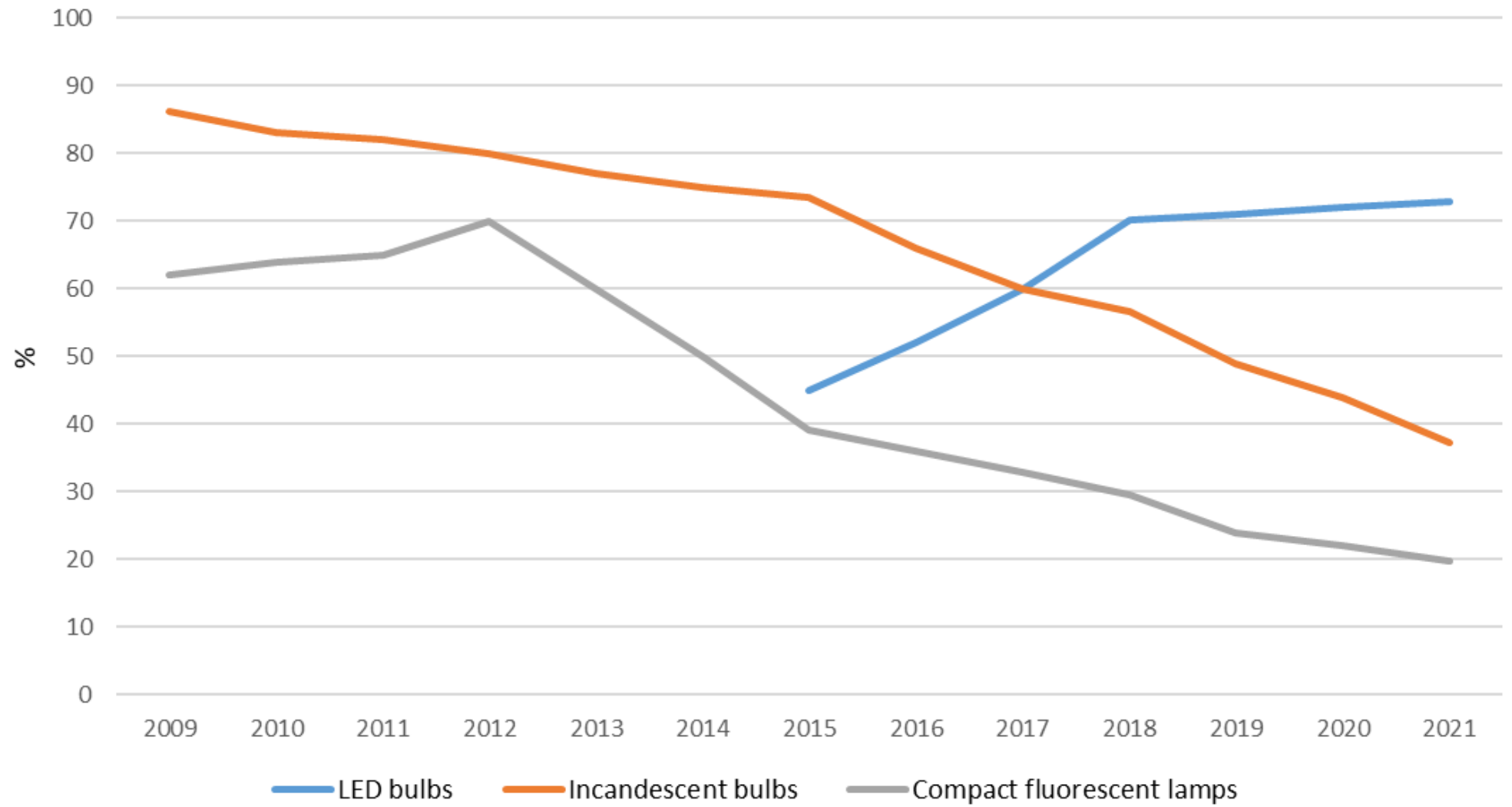
Electric energy consumption



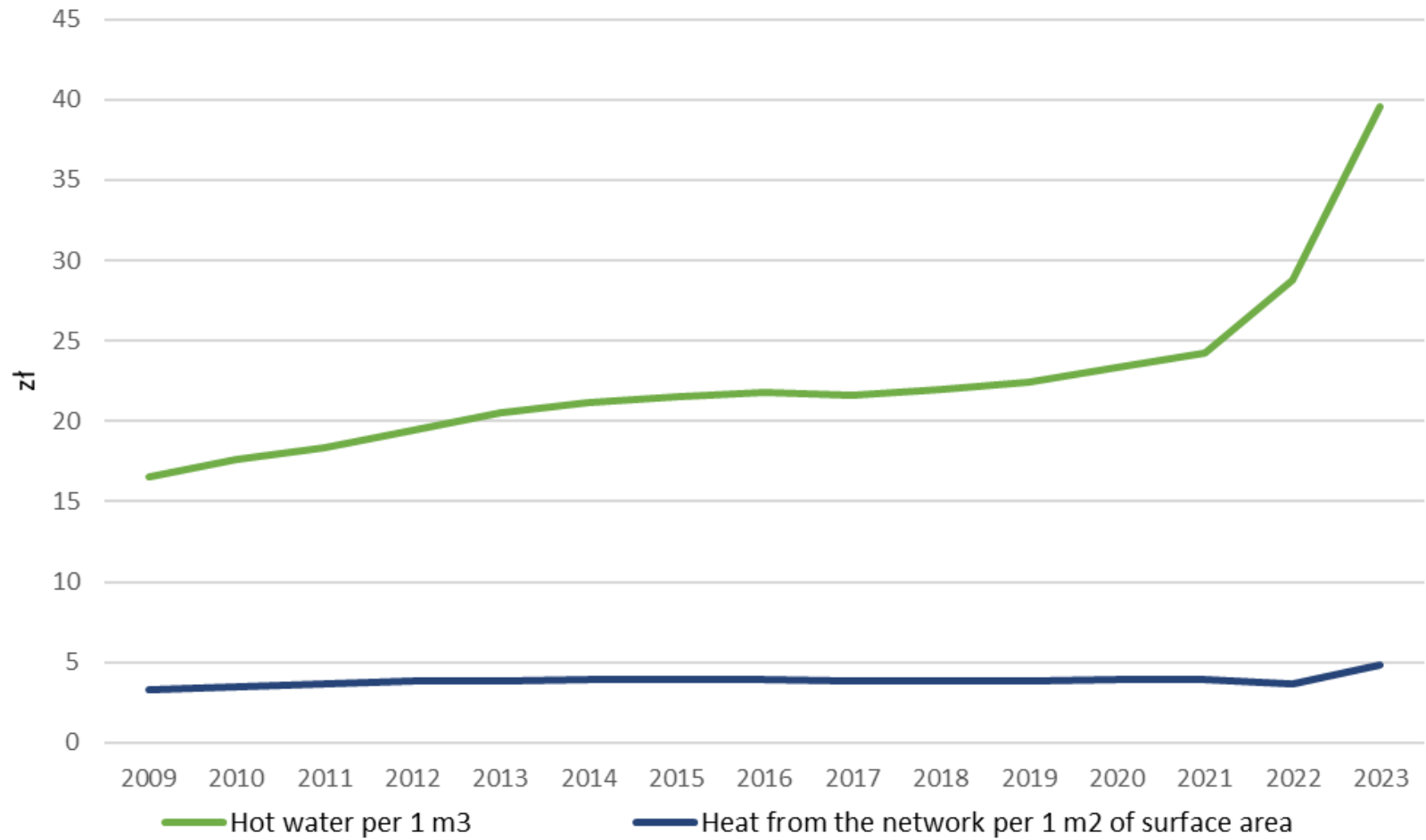
Households equipped with selected durable goods



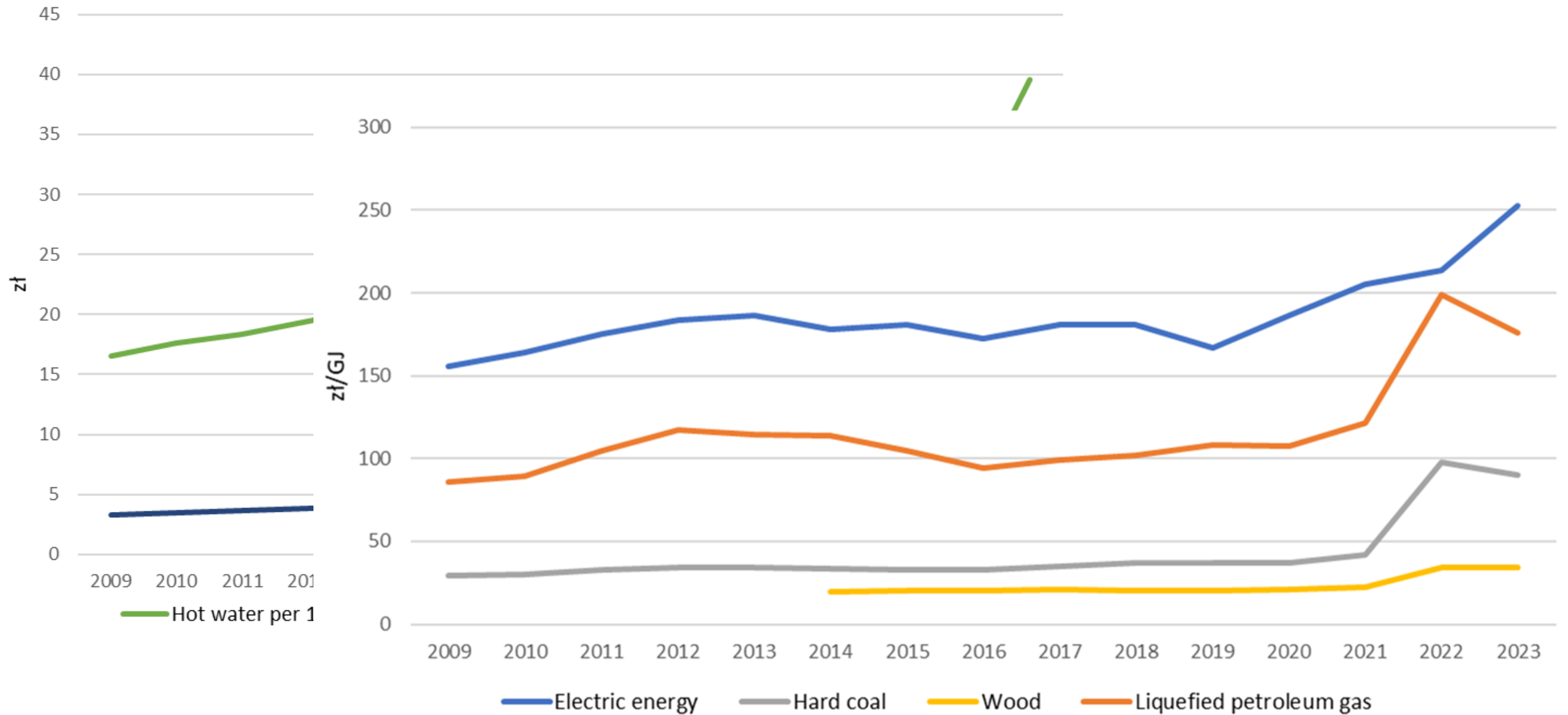
Households equipped with bulbs



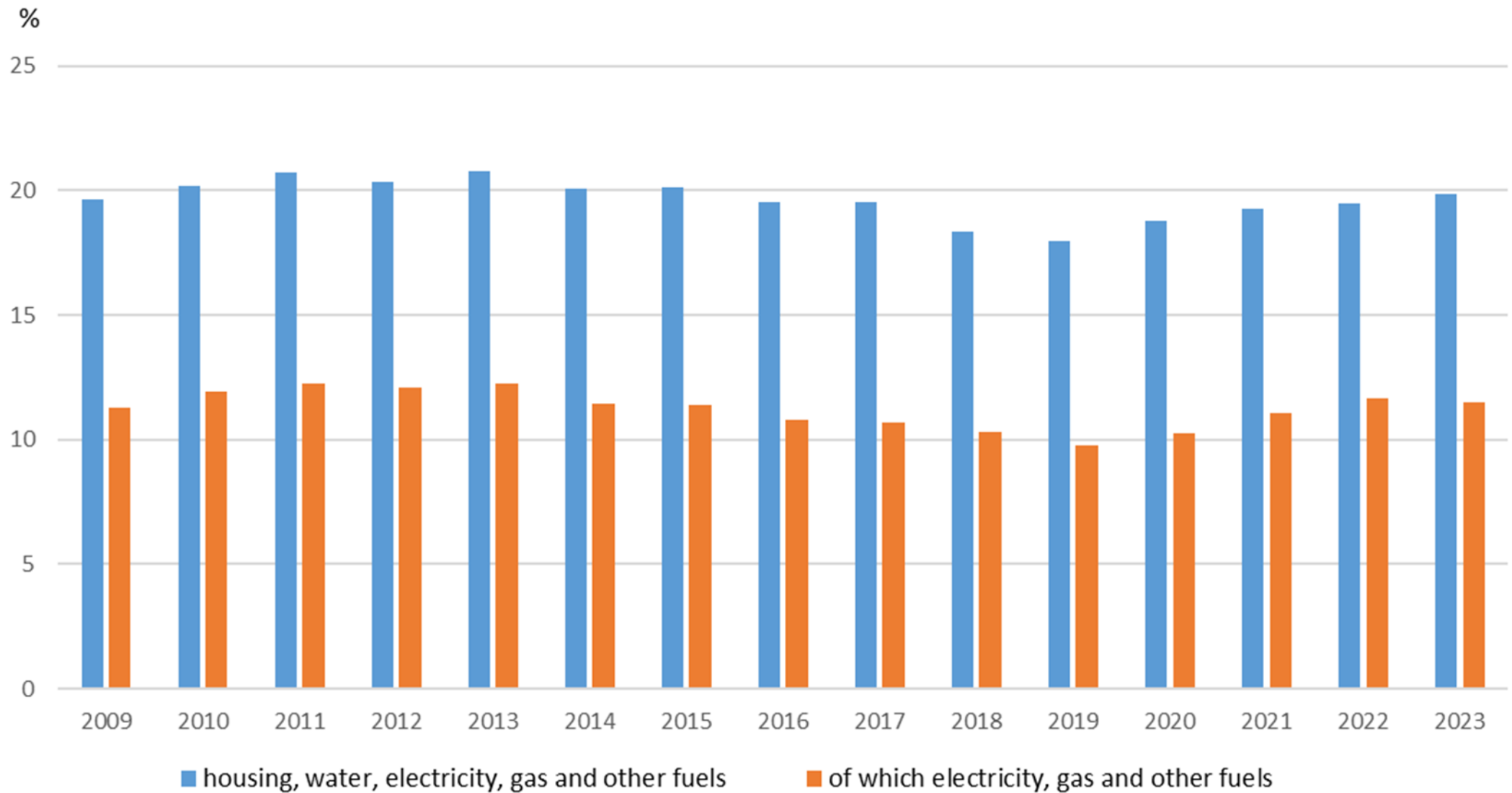
Prices of energy carriers



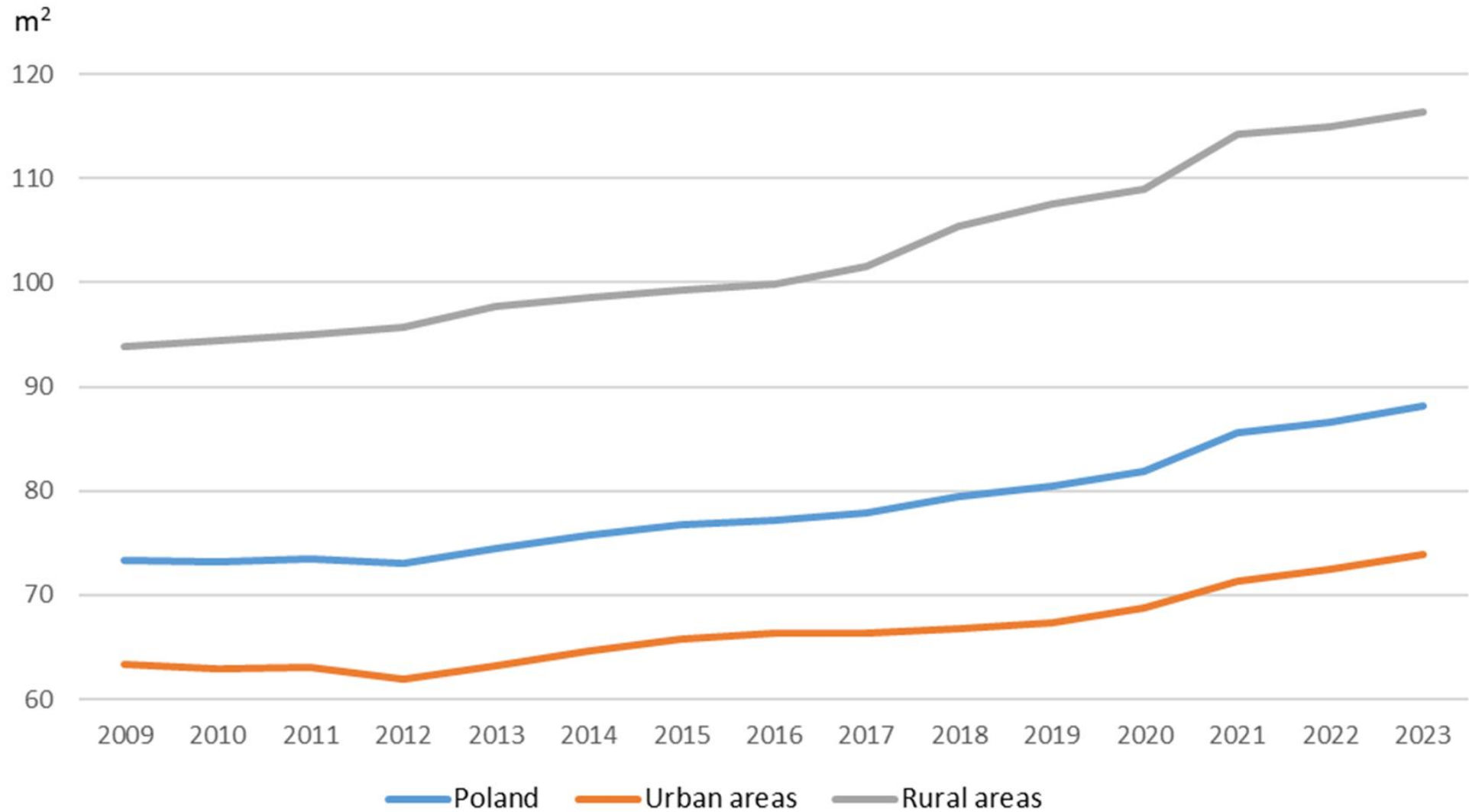
Prices of energy carriers



Household budget



Average floor area of dwelling

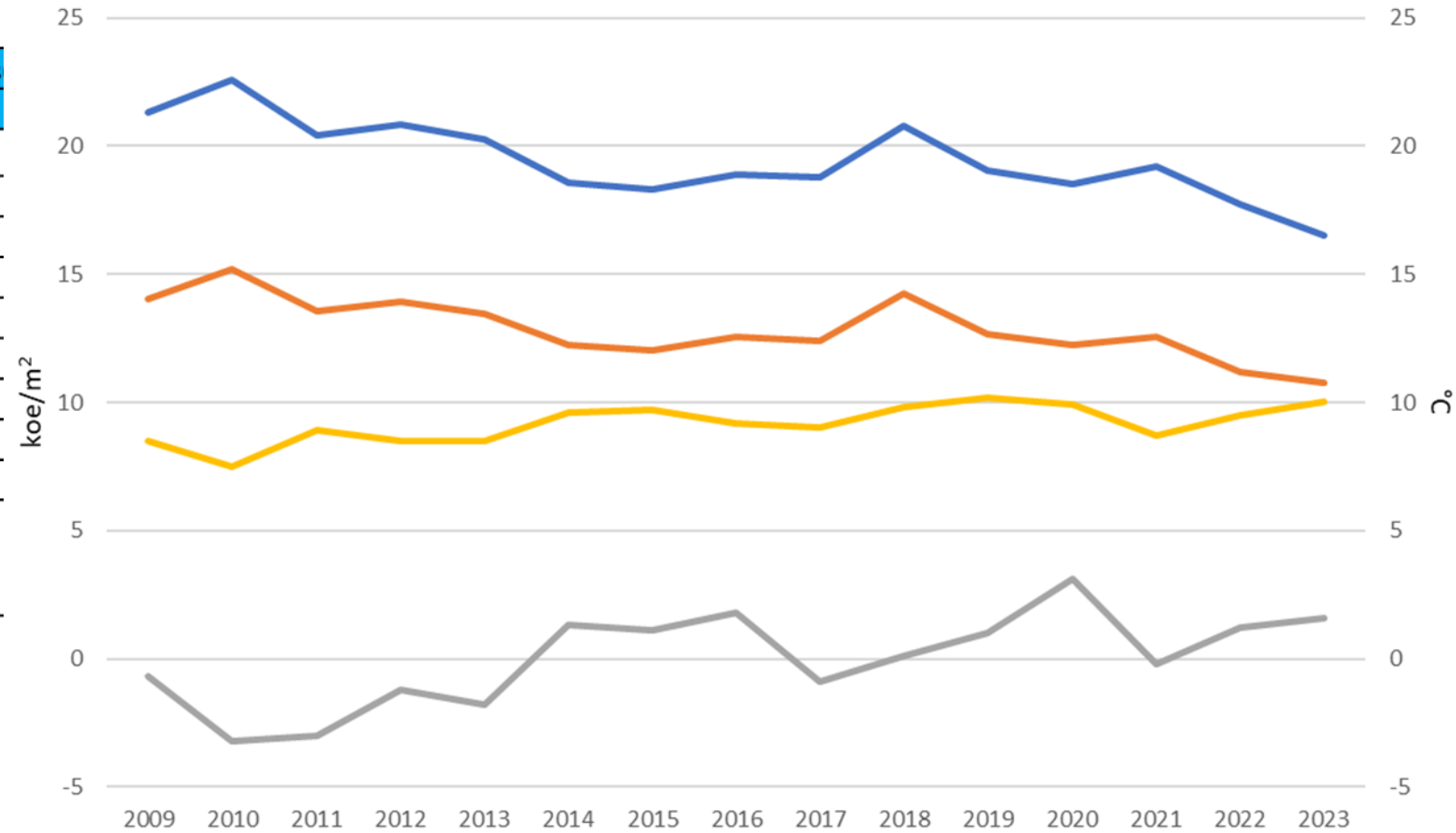


Energy demand for households

Specification	below 30 m ²	30 - 39 m ²	40 - 49 m ²	50 - 59 m ²	60 - 79 m ²	80 - 99 m ²	100 - 119 m ²	120 m ² and more	floor space	utility energy requirement	
	%								mln m ²	TJ	koe/m ²
Total	3,1	11,5	17,5	15,4	18,7	8,9	8,5	16,4	943,3	360813,4	9,1
before 1918	6,8	16,1	18,0	15,9	20,4	10,5	6,0	6,3	51,5	12361,8	5,7
1918-1944	4,4	11,0	14,5	14,8	23,1	14,1	8,9	9,3	82,2	16449,5	4,8
1945-1970	5,3	17,4	21,9	15,2	14,9	10,3	7,6	7,4	177,1	26557,5	3,6
1971-1978	3,3	16,2	26,9	19,3	12,2	6,6	7,7	7,8	107,3	10727,2	2,4
1979-1988	1,3	8,2	16,4	17,0	28,5	6,7	8,7	13,3	149,7	11973,9	1,9
1989-2002	1,3	6,4	11,1	13,6	22,8	8,3	9,5	27,0	146,3	10239,2	1,7
2003-2011	2,0	7,3	12,1	13,0	13,8	7,7	9,0	35,1	108,2	6490,6	1,4
2012-2016	1,7	7,4	14,0	12,7	14,2	7,8	9,0	33,2	58,4	2918,9	1,2
2017-2021 (including buildings under construction)	1,7	8,1	14,0	12,0	14,9	8,9	9,8	30,6	62,7	2507,3	1,0

Energy demand for households

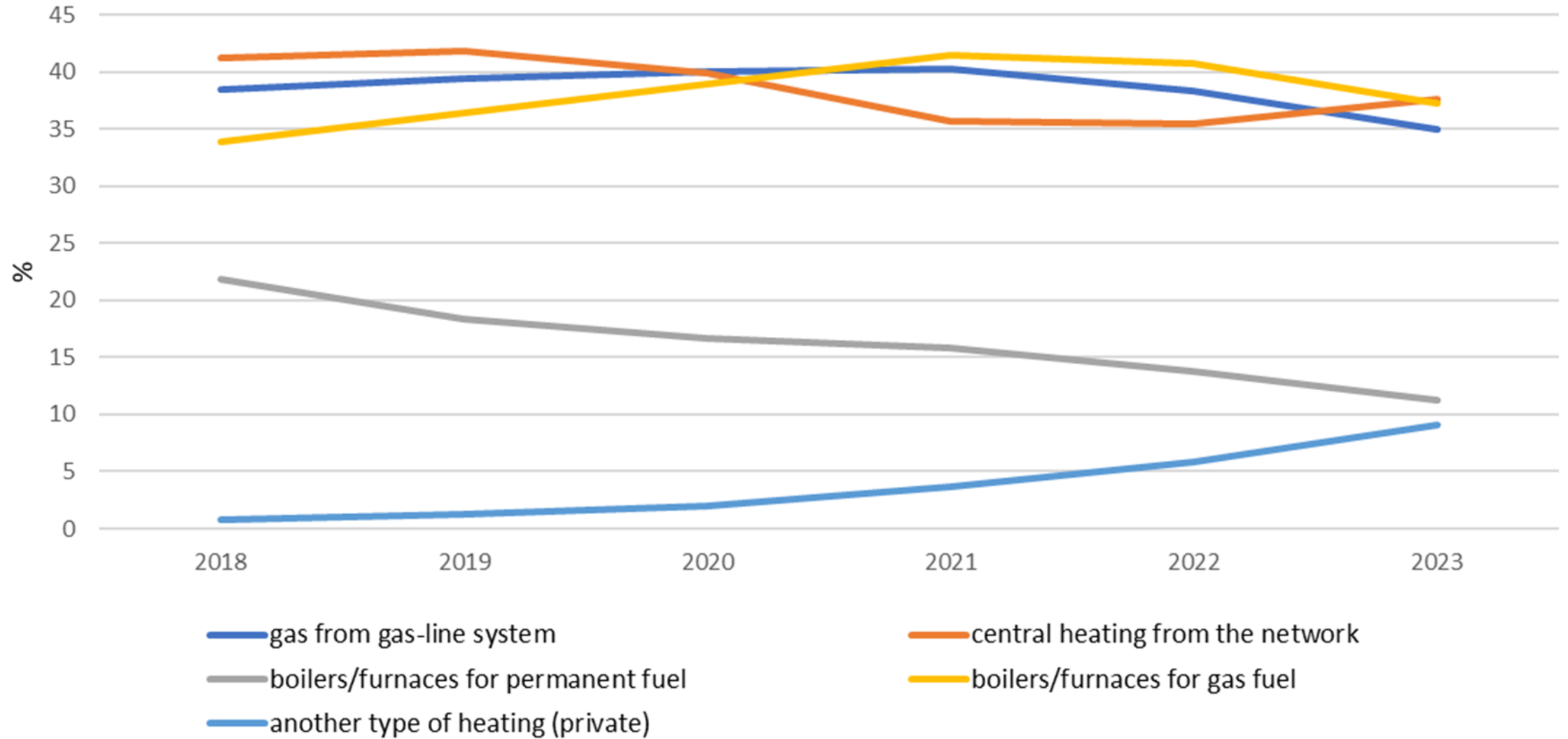
Specification	below 3
Total	
before 1918	
1918-1944	
1945-1970	
1971-1978	
1979-1988	
1989-2002	
2003-2011	
2012-2016	
2017-2021 (including buildings under construction)	



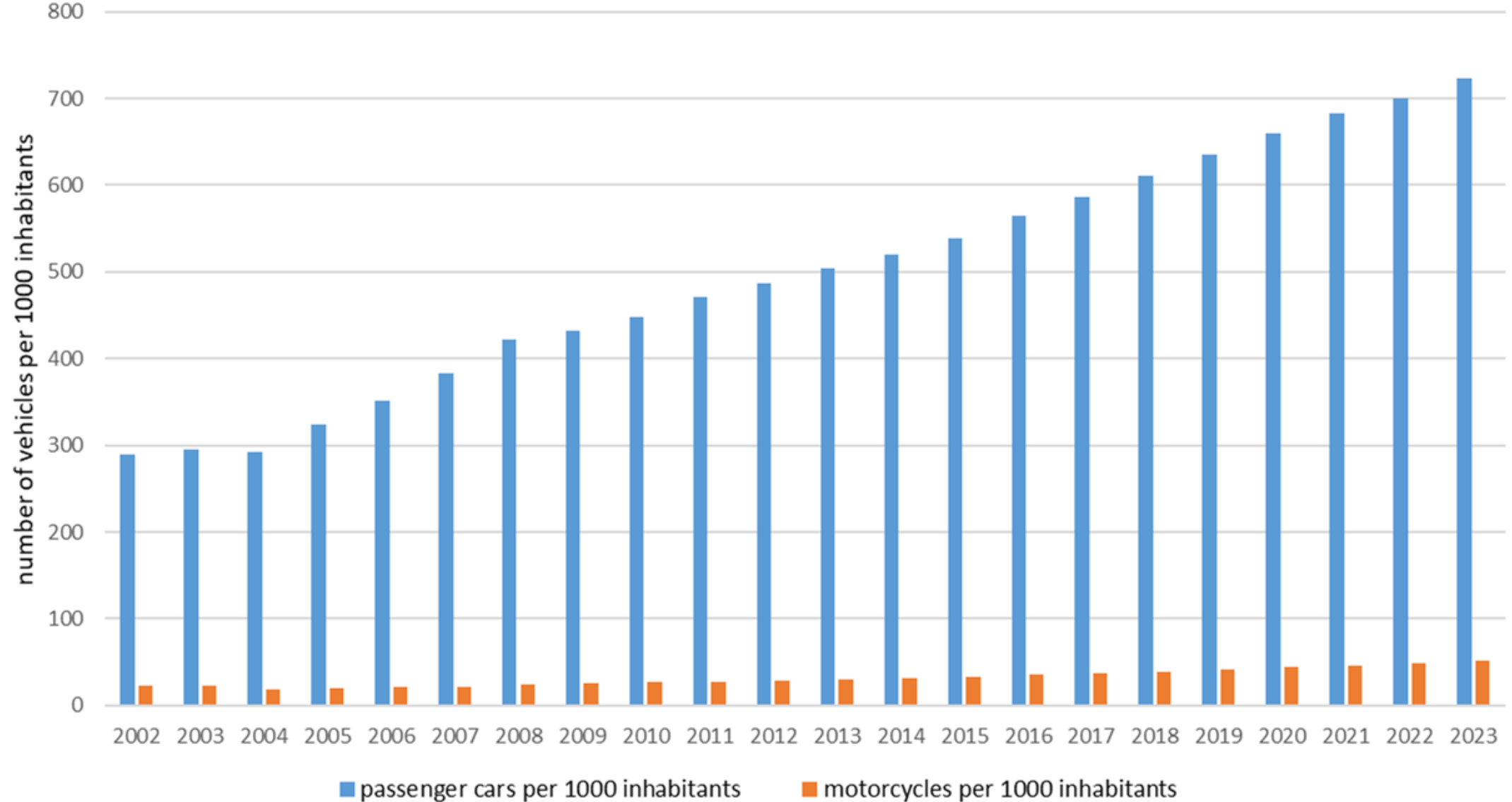
- Energy consumption in households [koe/m2]
- Consumption of space heating [koe/m2]
- Average air temperature in winter [°C]
- Average value of air temperature in the year under review [°C]

Total energy requirement	
TJ	koe/m ²
360813,4	9,1
12361,8	5,7
16449,5	4,8
26557,5	3,6
10727,2	2,4
11973,9	1,9
10239,2	1,7
6490,6	1,4
2918,9	1,2
2507,3	1,0

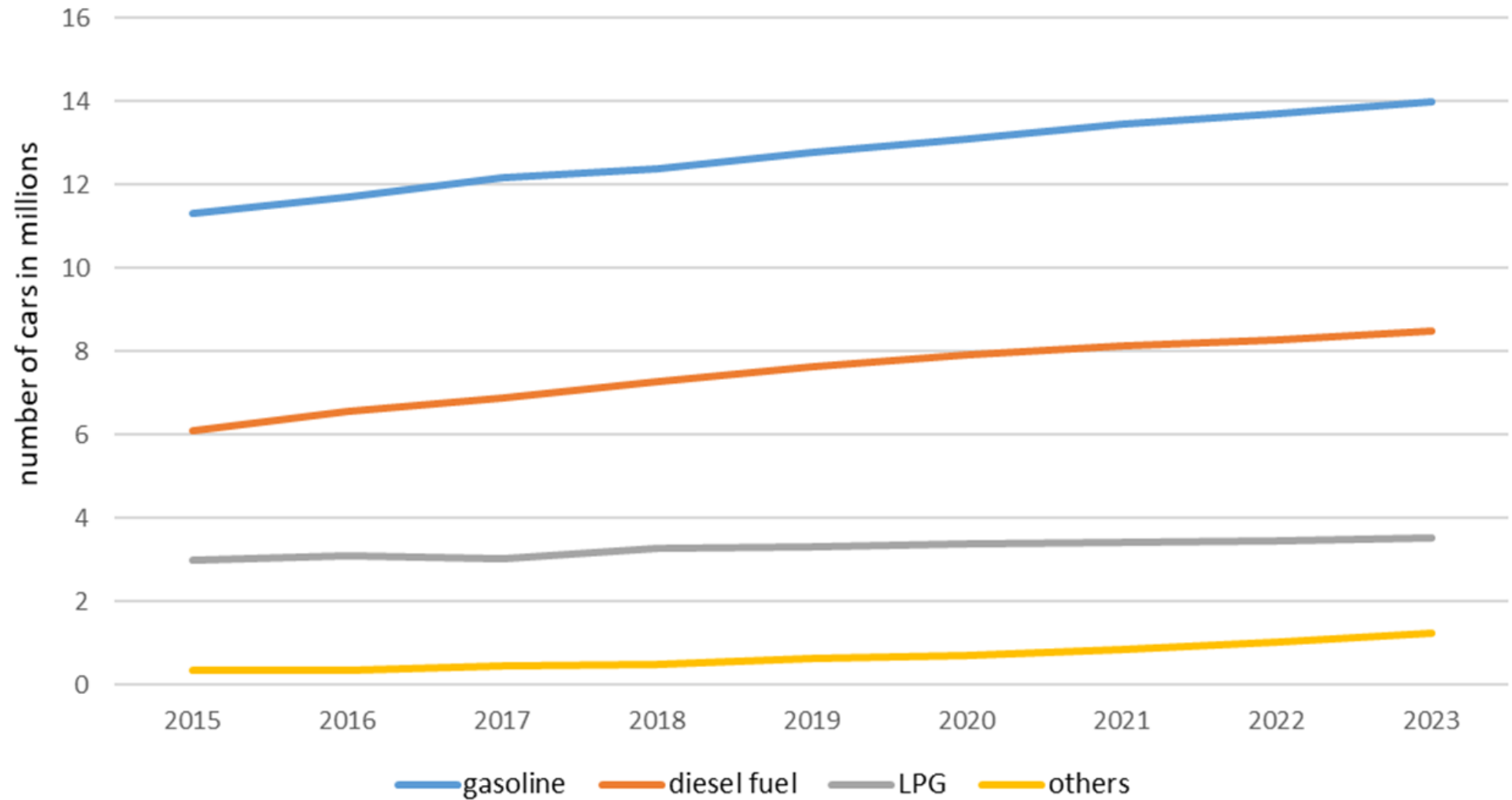
Equipping newly completed apartments



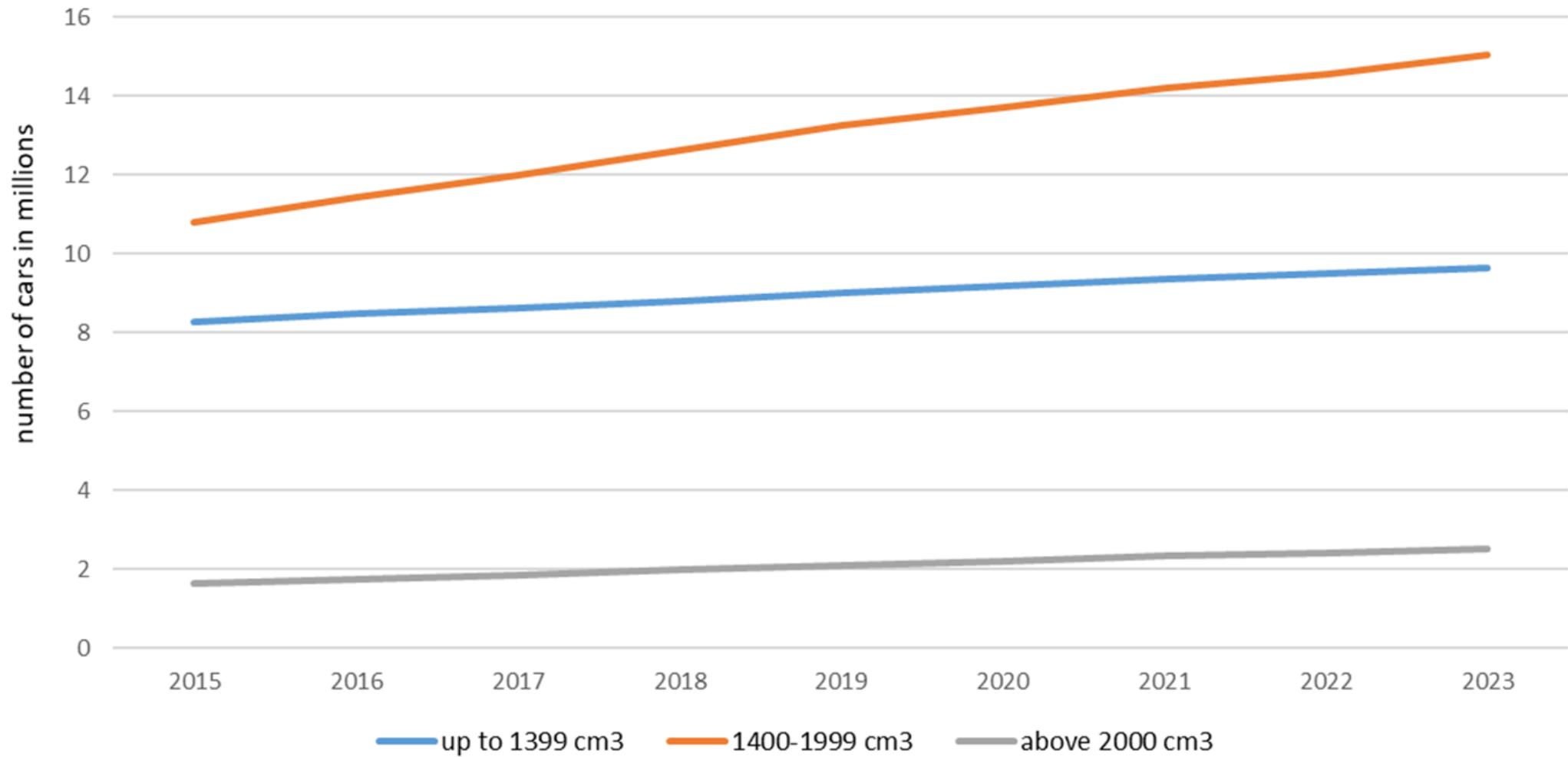
Transport – numer of vehicles



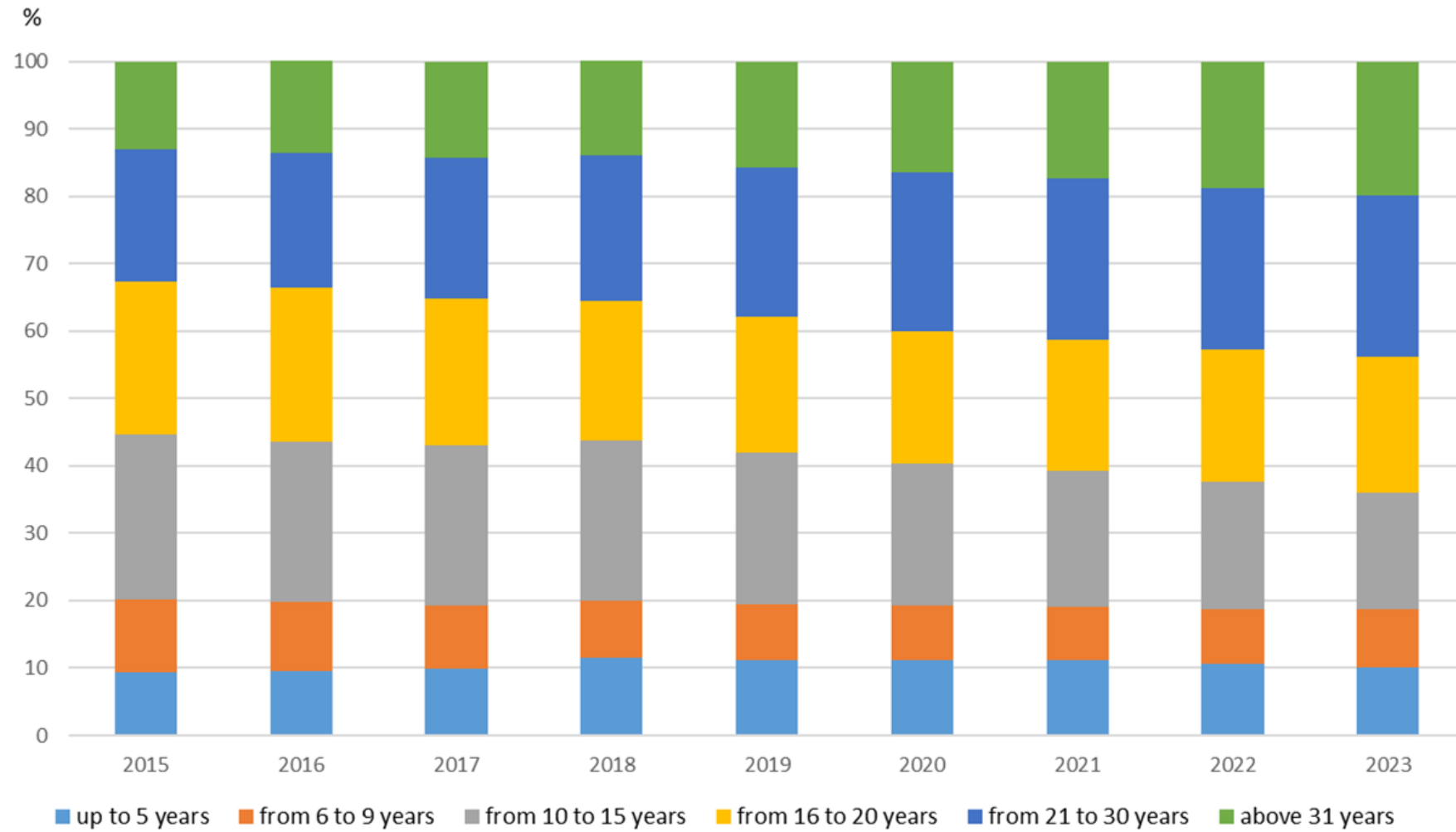
Transport - fuel and engines



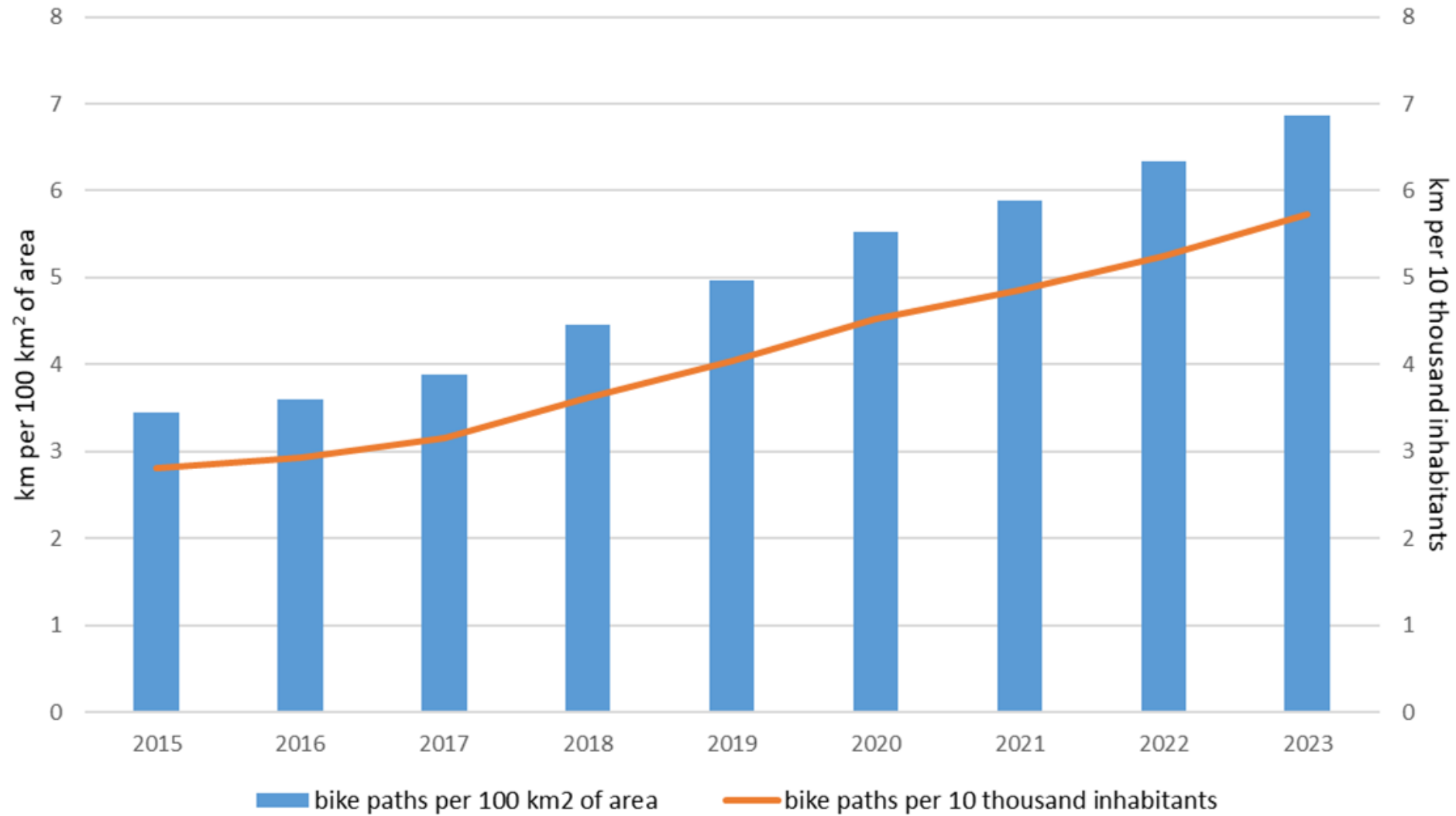
Transport - fuel and engines



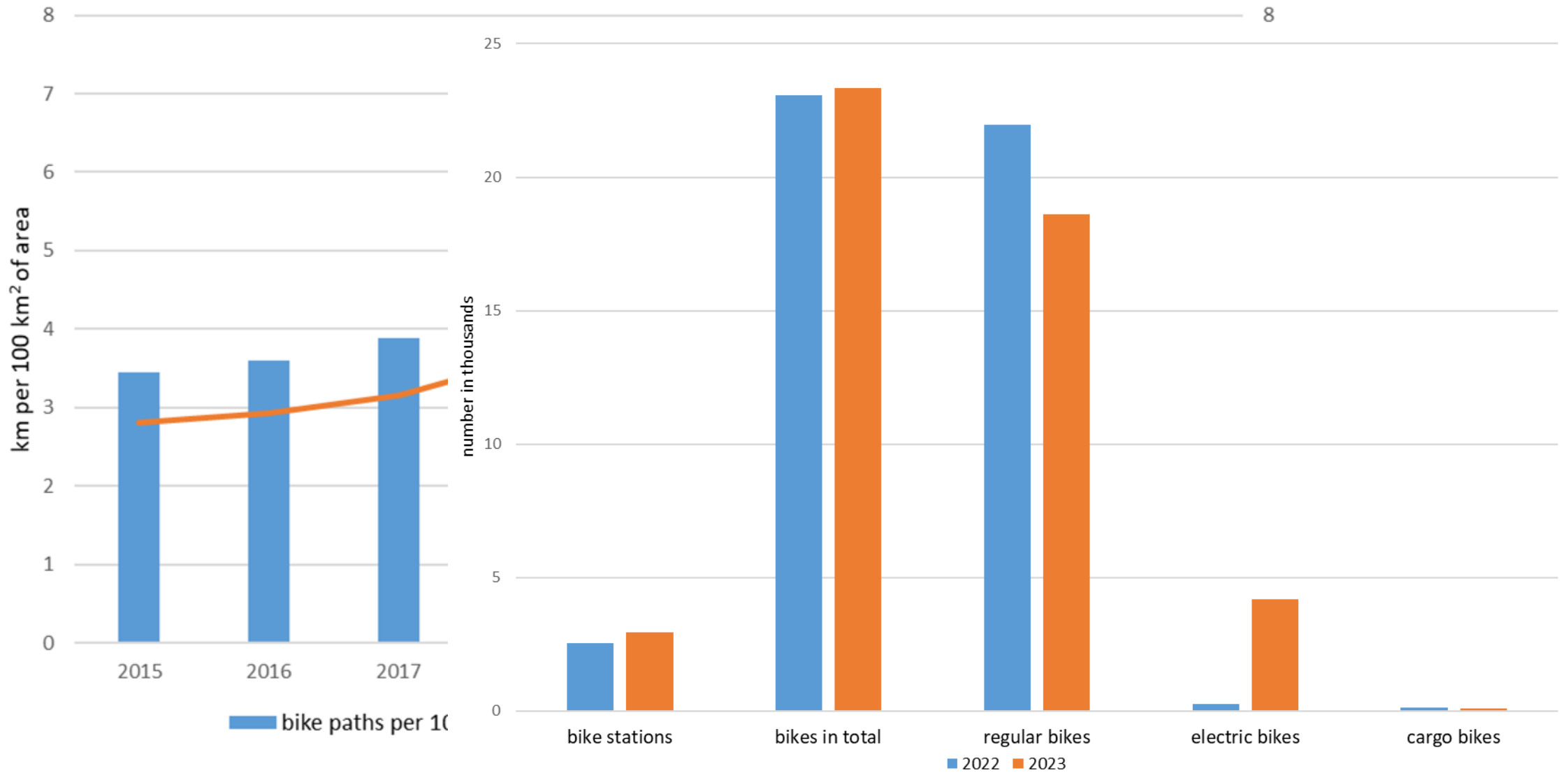
Transport – age of passenger vehicles



Bicycles



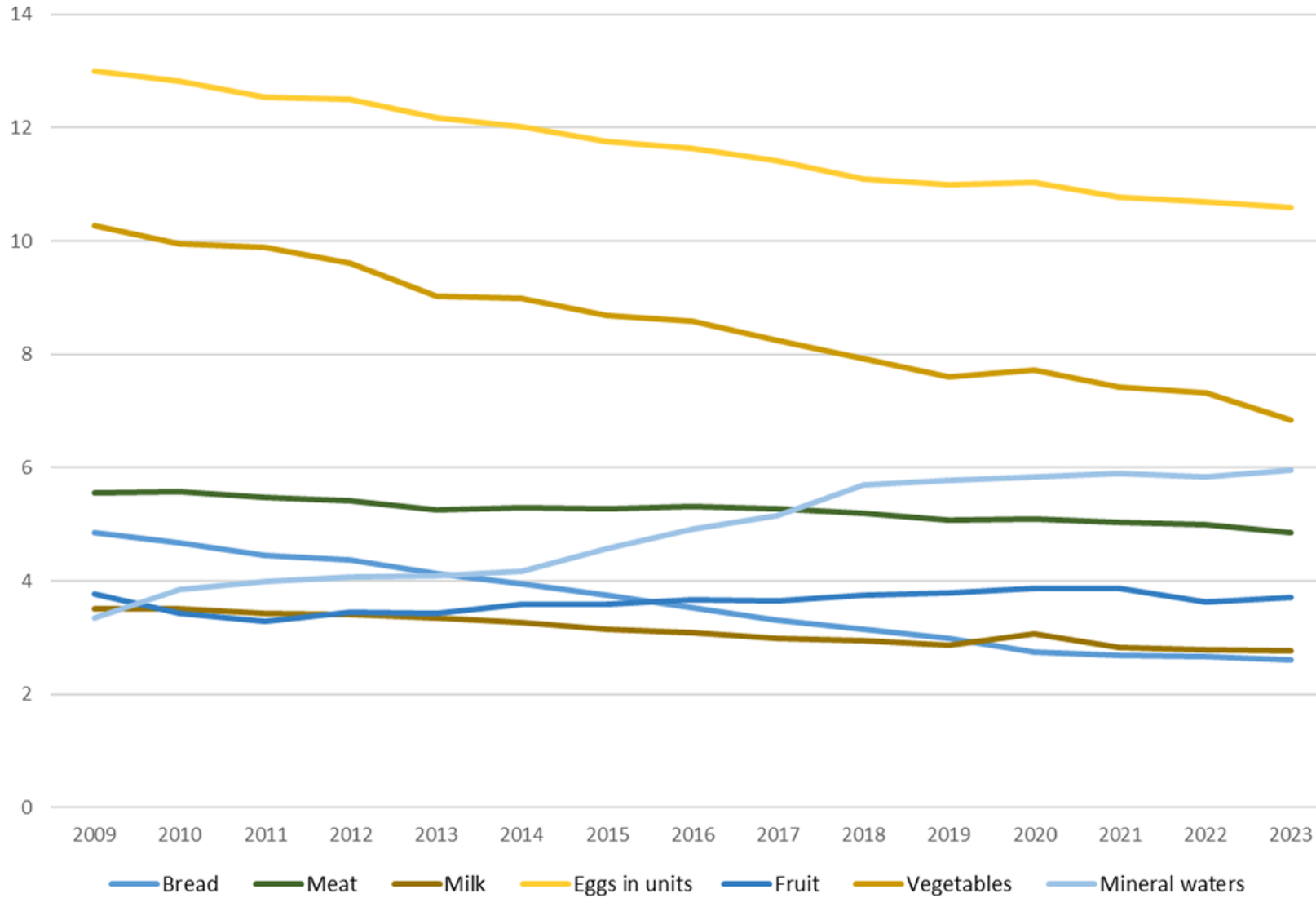
Bicycles



Average monthly consumption per capita in households



Average monthly consumption per capita in households

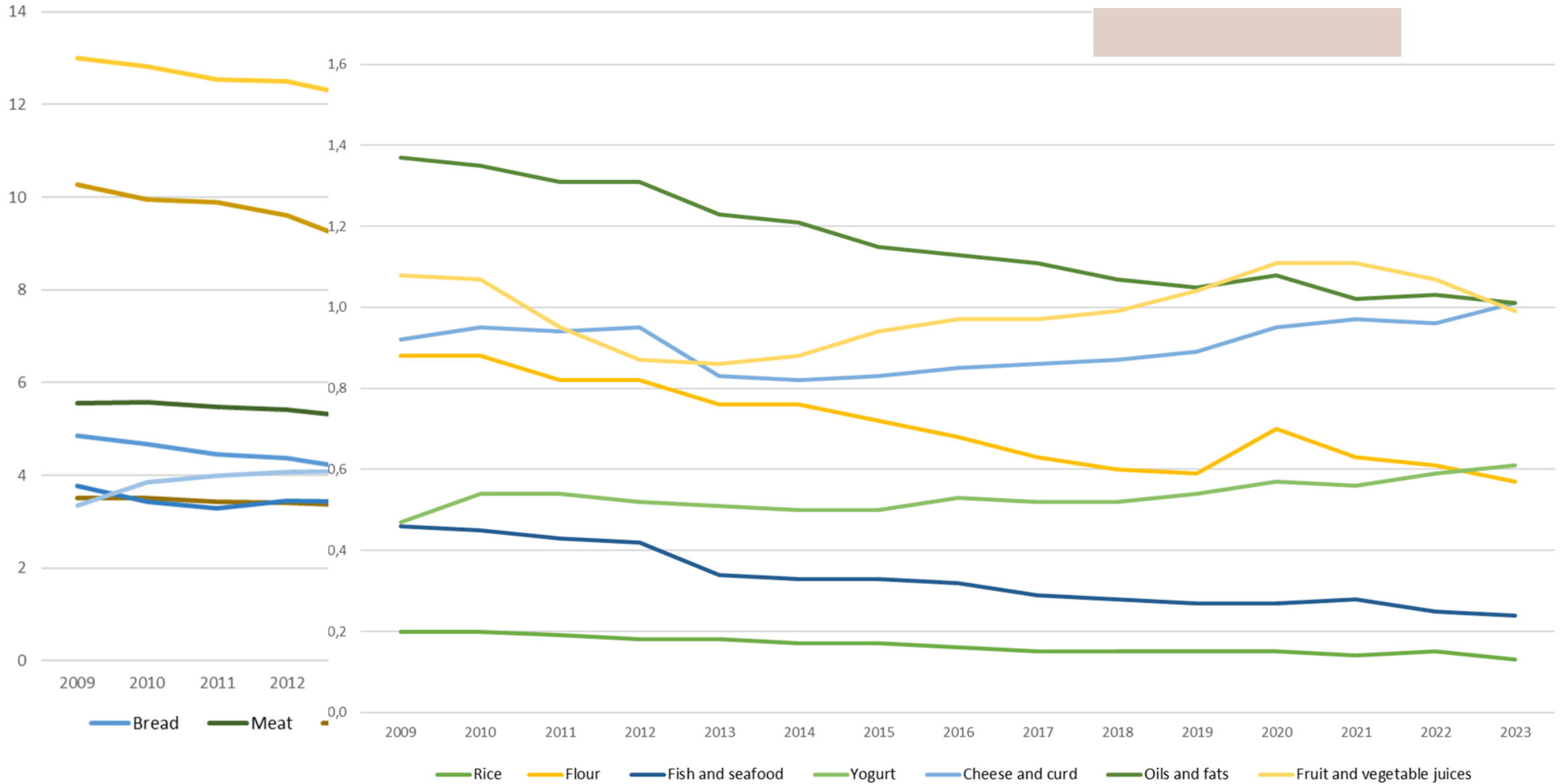


corn Mince
1.5kg CO₂e/kg

tomatoes
2.1kg CO₂e/kg

blueberries
1.5kg CO₂e/kg

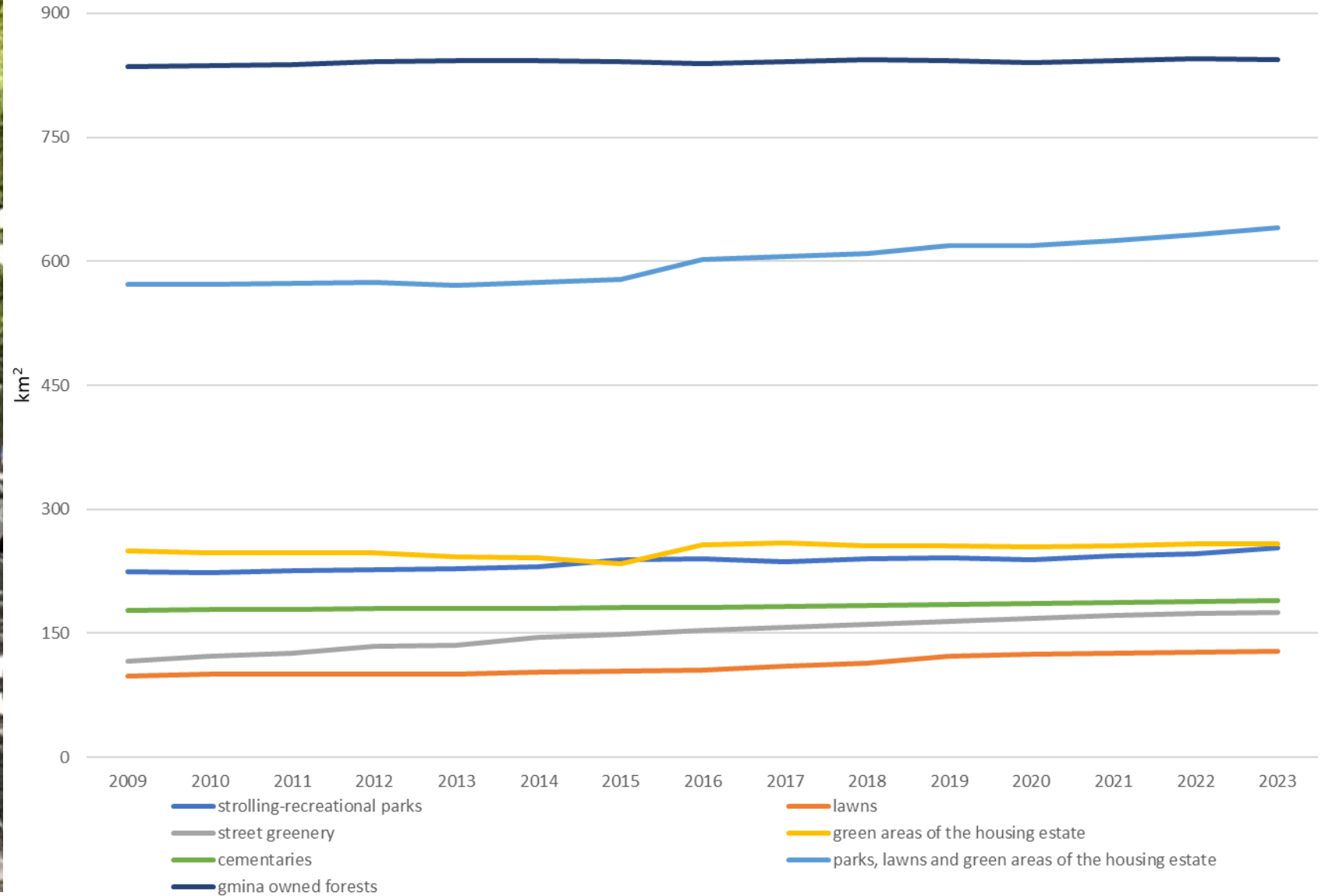
Average monthly consumption per capita in households



How about planting trees ?



How about planting trees ?



Conclusions

- The main factor encouraging energy savings is the increase in energy costs, followed by the growing environmental awareness among consumers.
- In recent years, the information technology revolution has transformed our approach to various aspects of daily life, such as shopping or visiting local offices. Investigating these changes or assessing their impact on the consumption of energy carriers will require a series of interdisciplinary studies.
- Energy sufficiency can also be measured by examining phenomena such as energy poverty and energy extravagance, provided that these terms are well-defined.
- During the energy crisis, a number of public campaigns were launched to encourage energy conservation. In Poland, the decrease in energy consumption was clearly visible only for the most expensive energy carriers.

Thank you!

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