



# ODYSSEE-MURE National Workshop Switzerland

*Energy efficiency indicators  
for households*

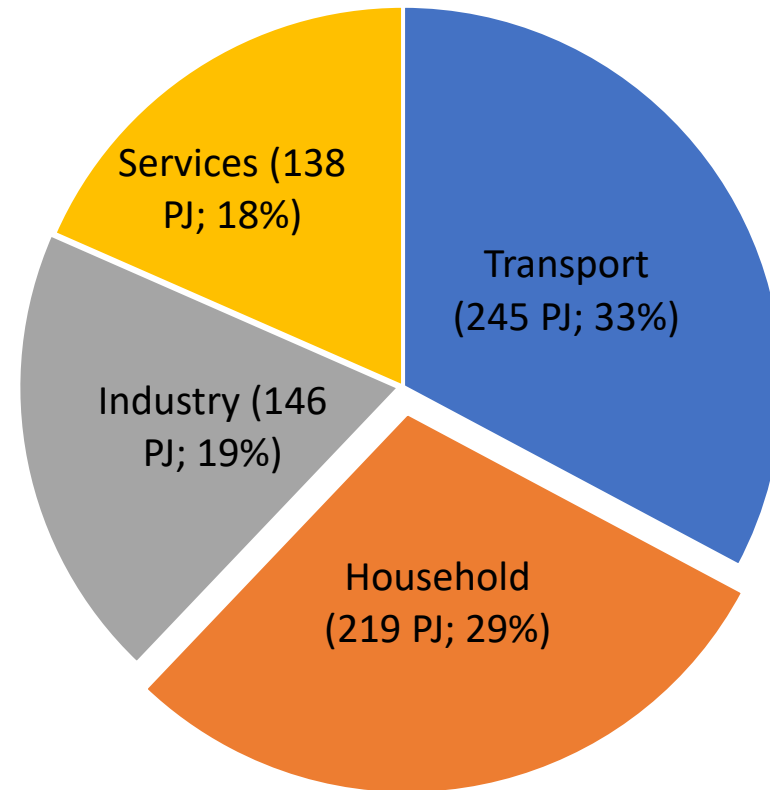


**UNIVERSITÉ  
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# Household sector



Final energy by end-use sectors in Switzerland (SFOE, 2020)

# Introduction: Household ODEX

*Household ODEX:  
aggregate UC trends of 3  
end uses and 5 large  
appliances based on their  
share in TFE demand*

*The EE trend for all 5 appliances:  
UC indices of individual appliances types  
weighted by their share in TFE*

*The UC trends:  
Space heating energy use **per unit of floor space**  
Hot water and cooking energy use **per occupied dwelling**  
Particular Appliance energy use by **its stock (kWh/appliance/year)***

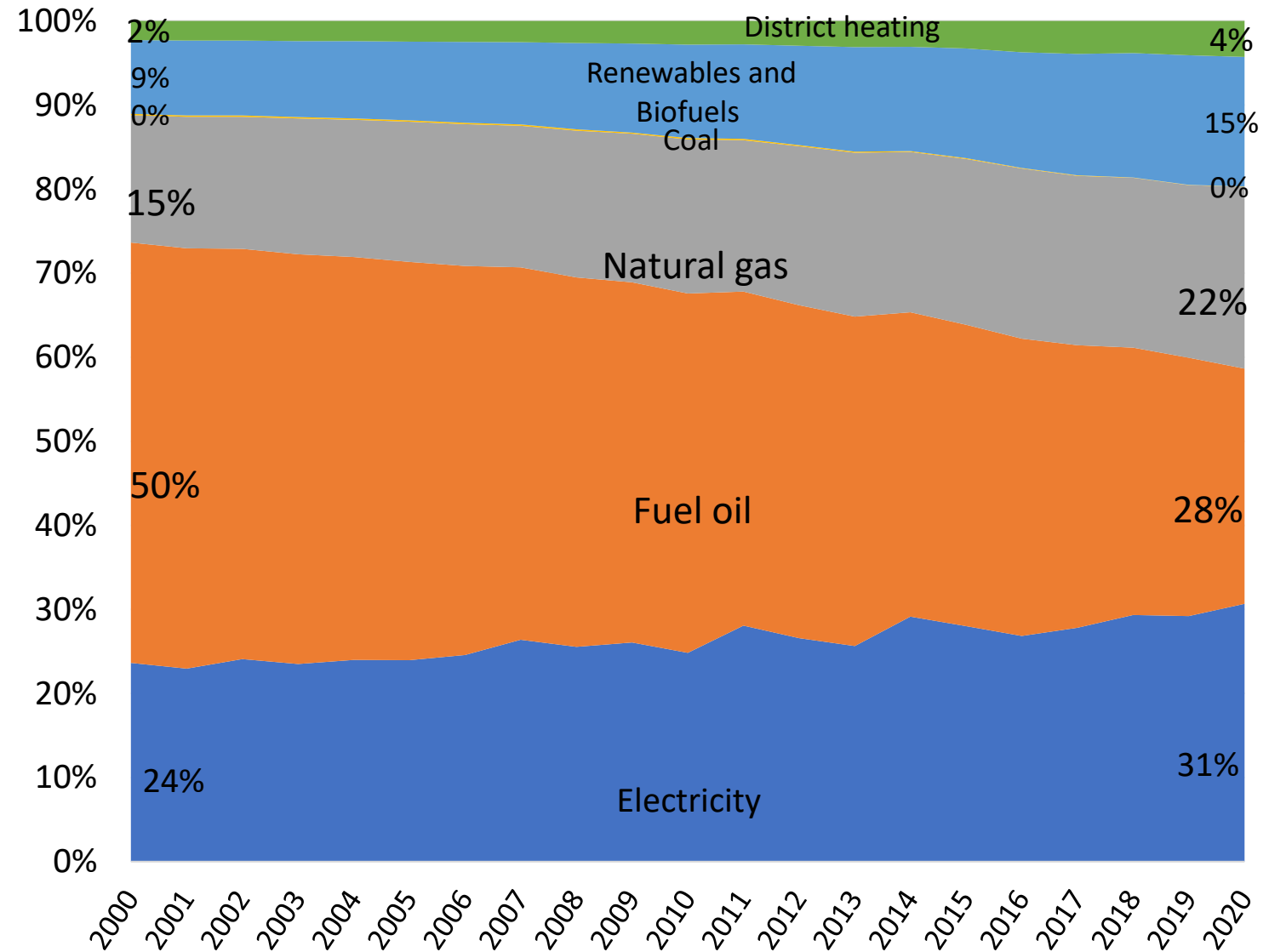
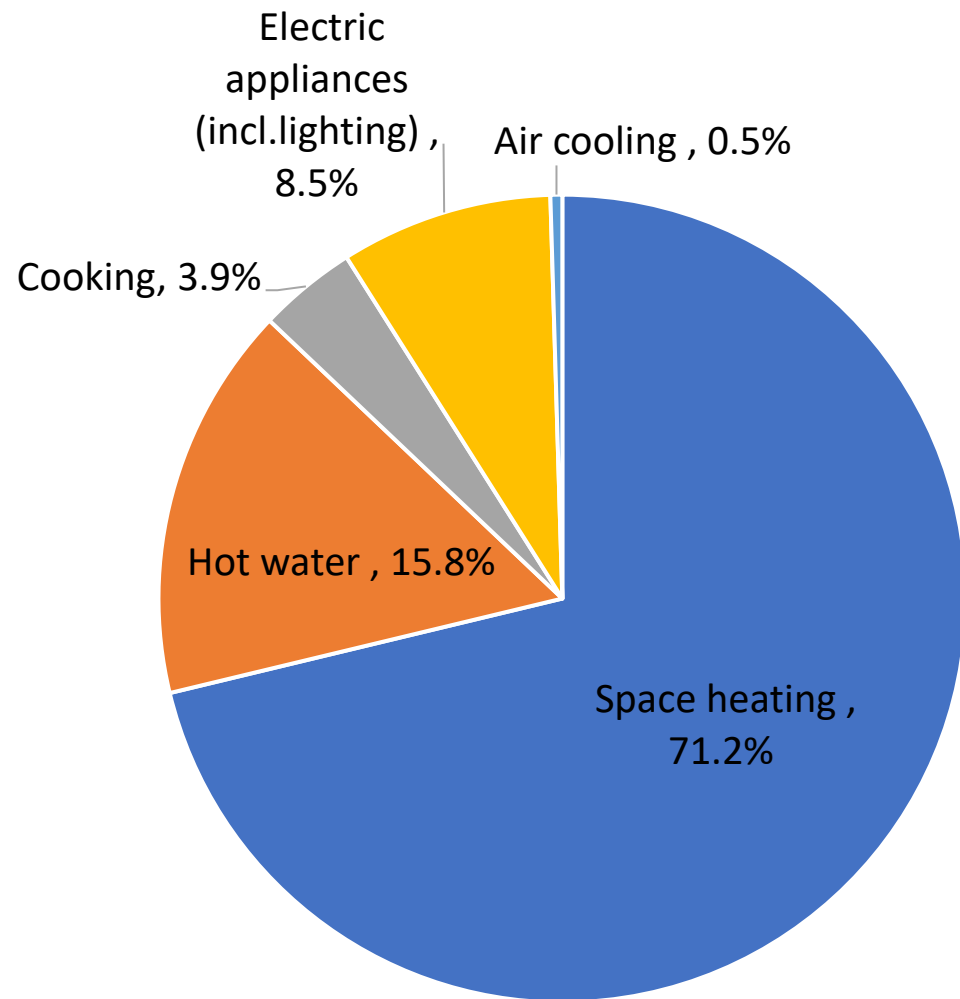
## **Three end uses:**

- Space heating
- Hot water
- Cooking

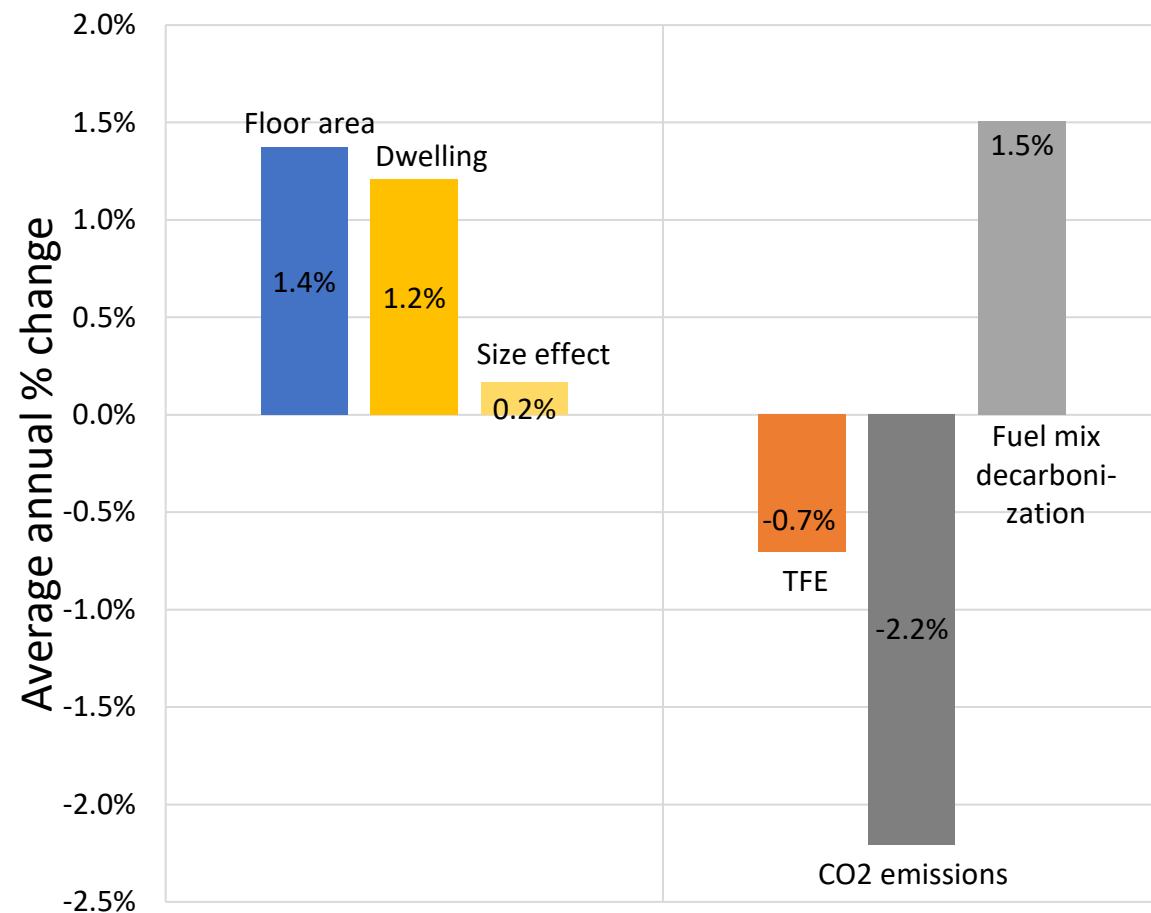
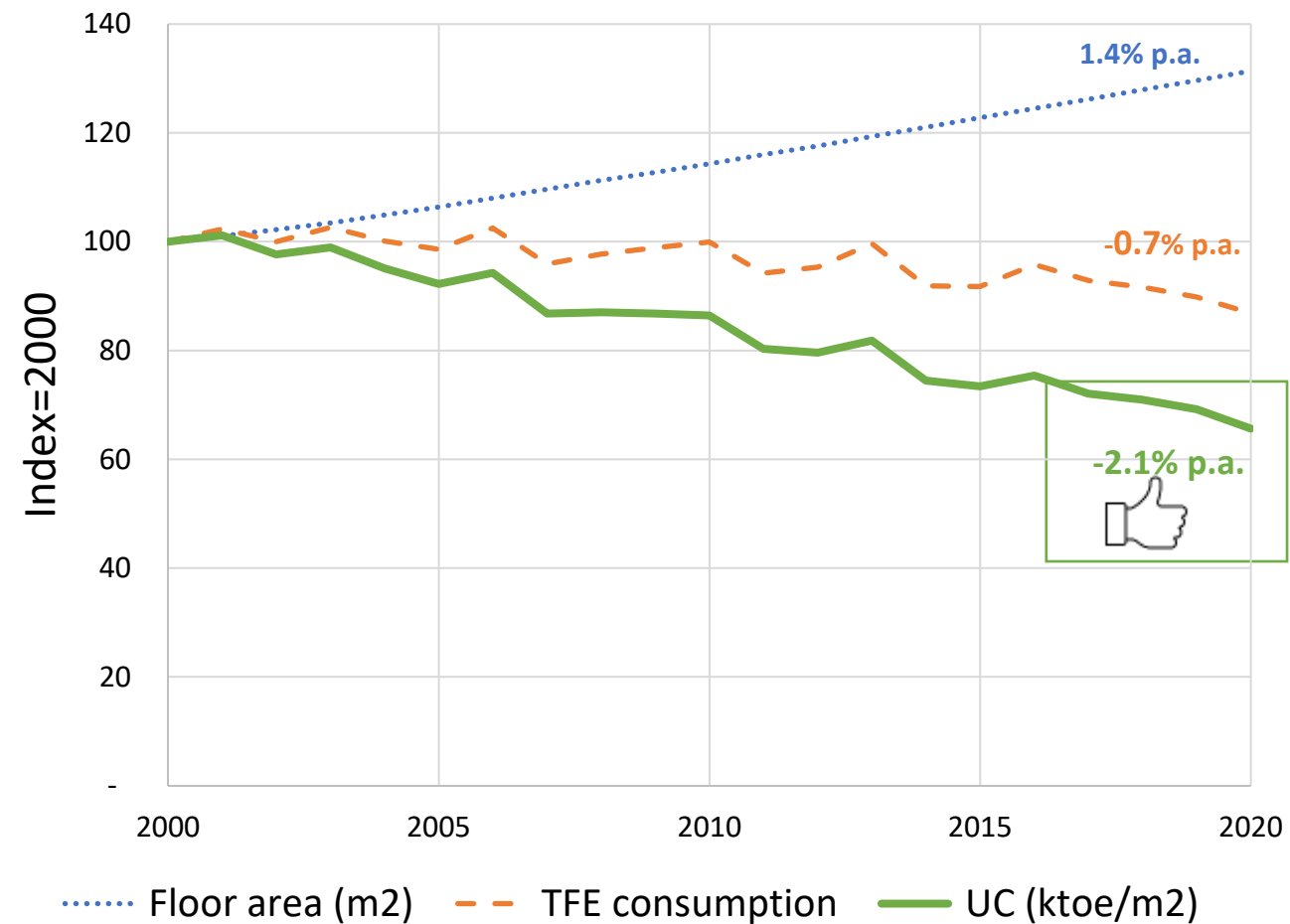
## **Five large appliances:**

- Refrigerators
- Freezers
- Washing machines
- Dishwashers
- TVs

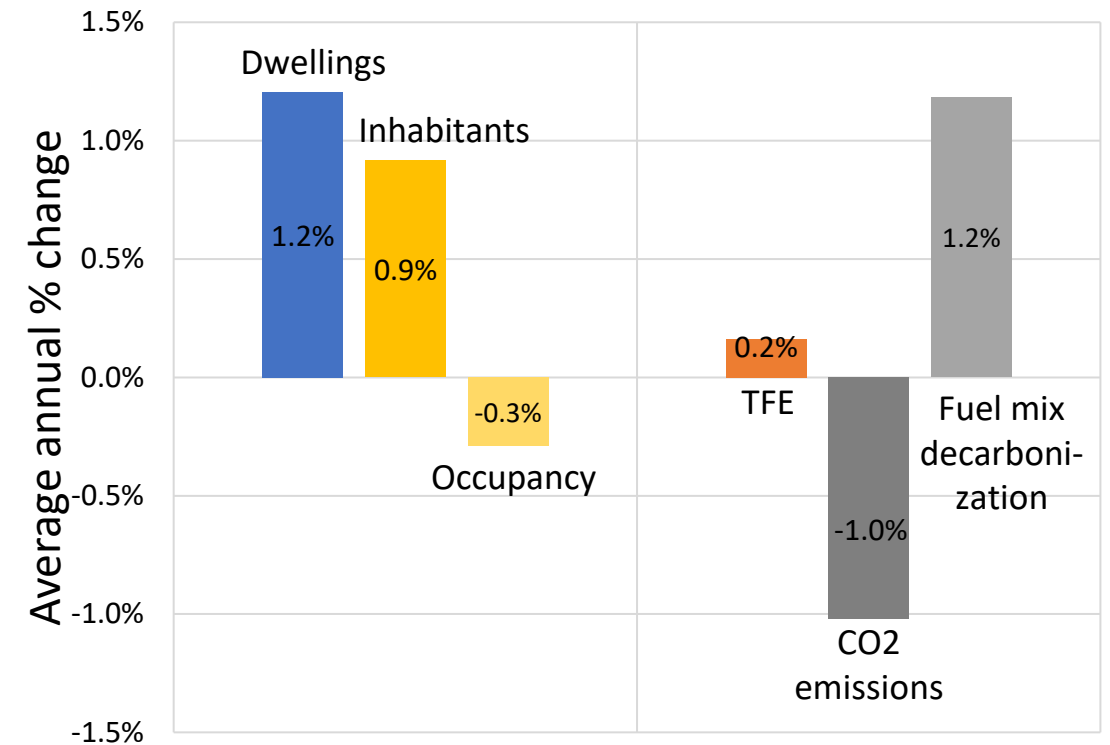
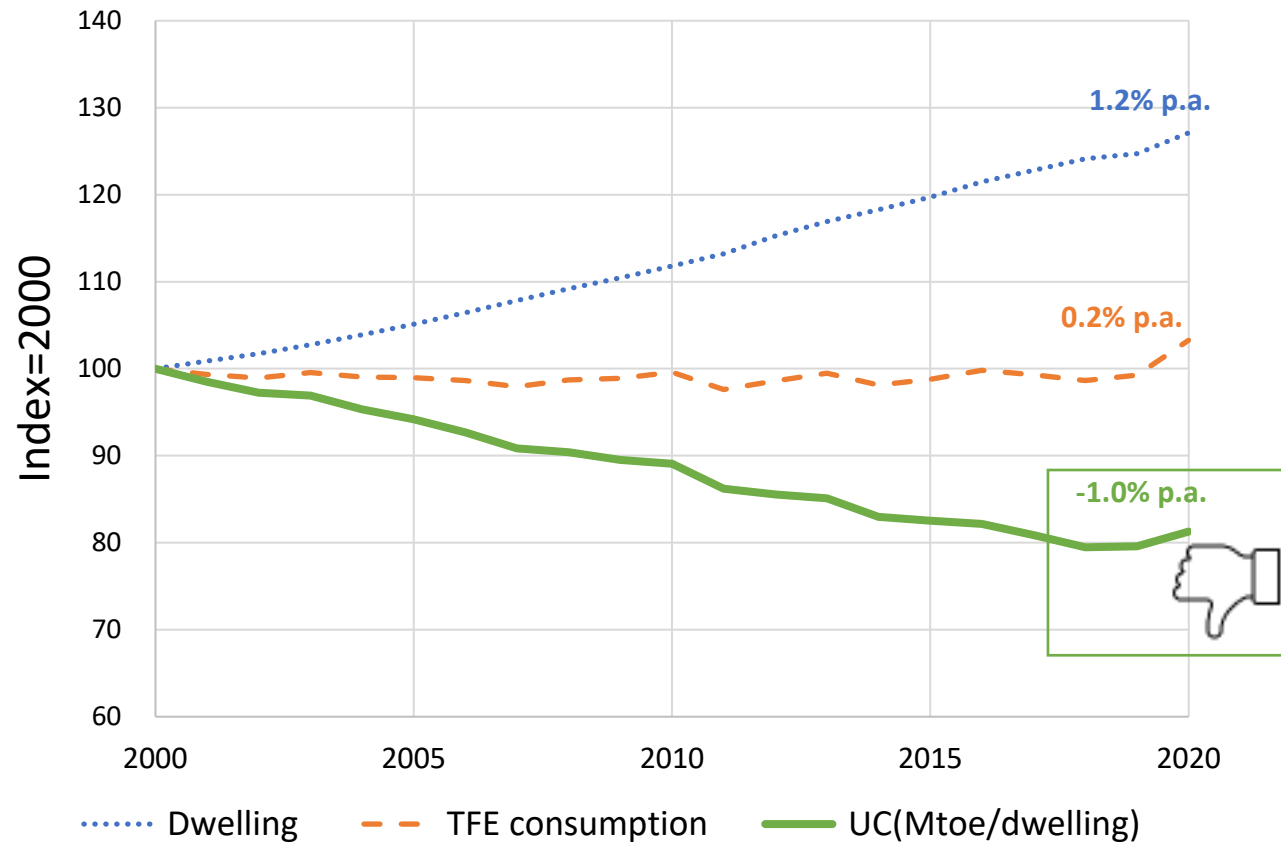
# Household: Overview



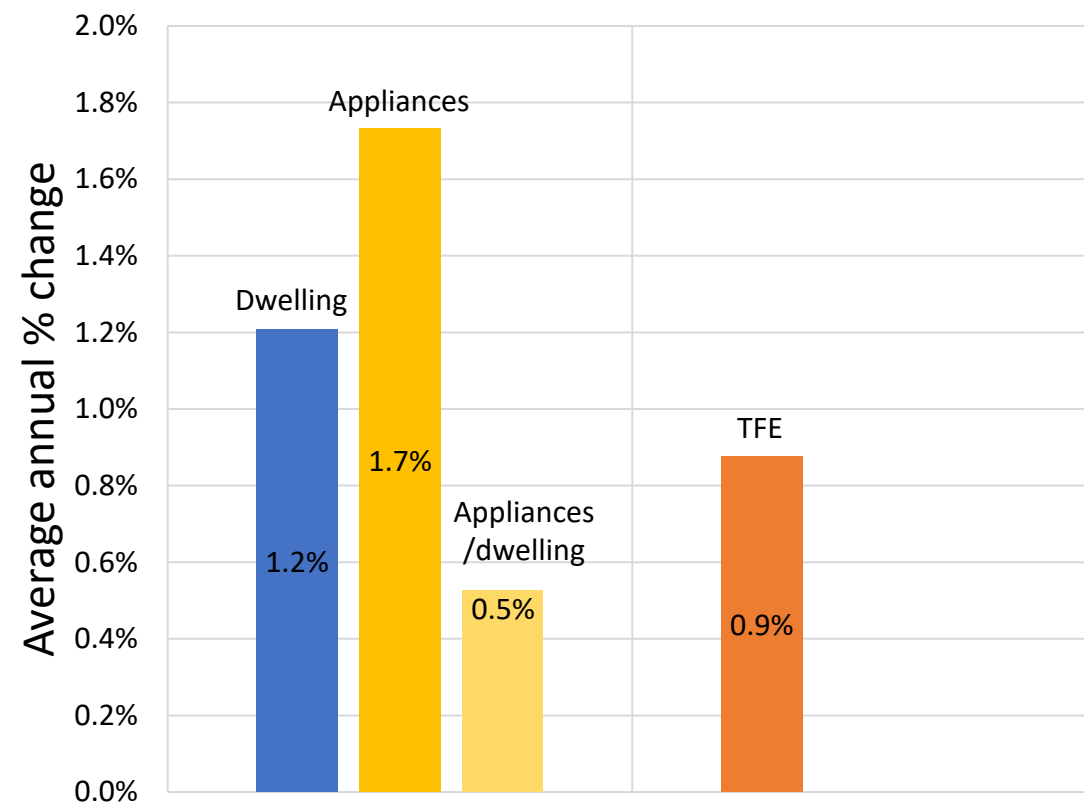
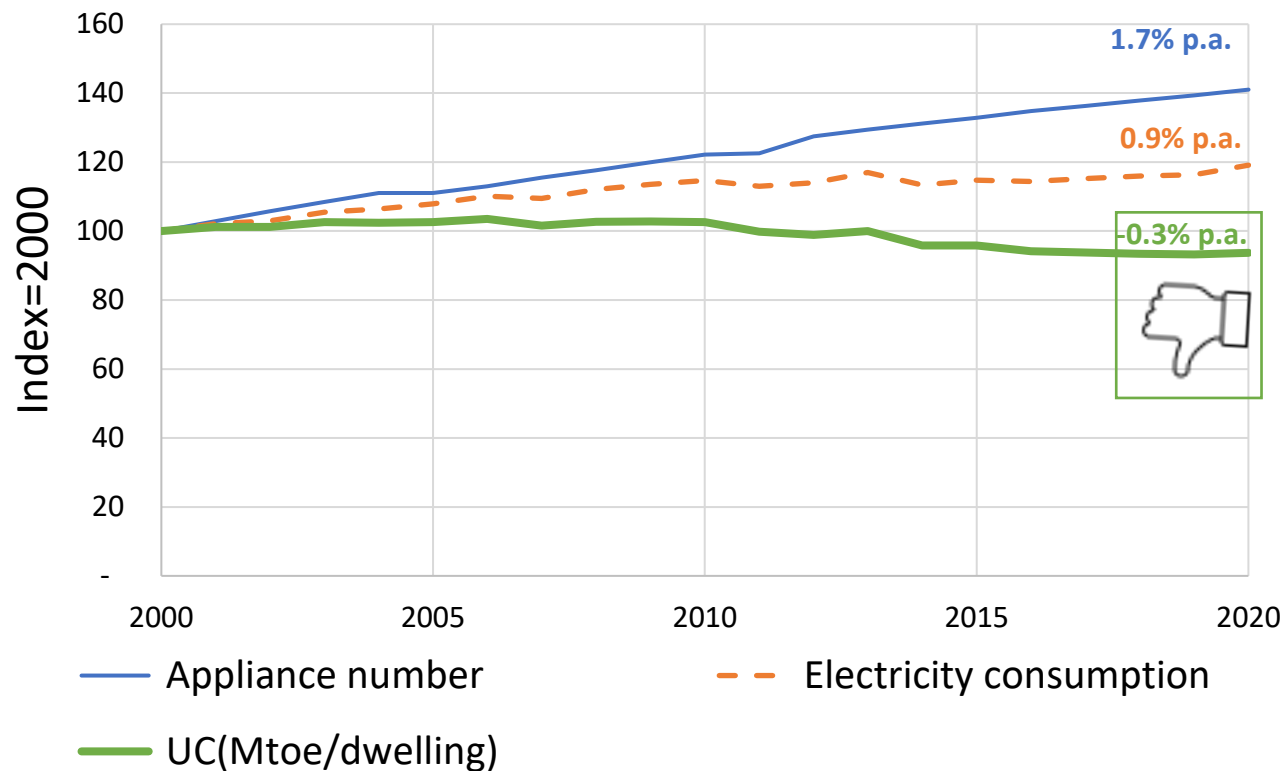
# Space heating (71% of households' TFE)



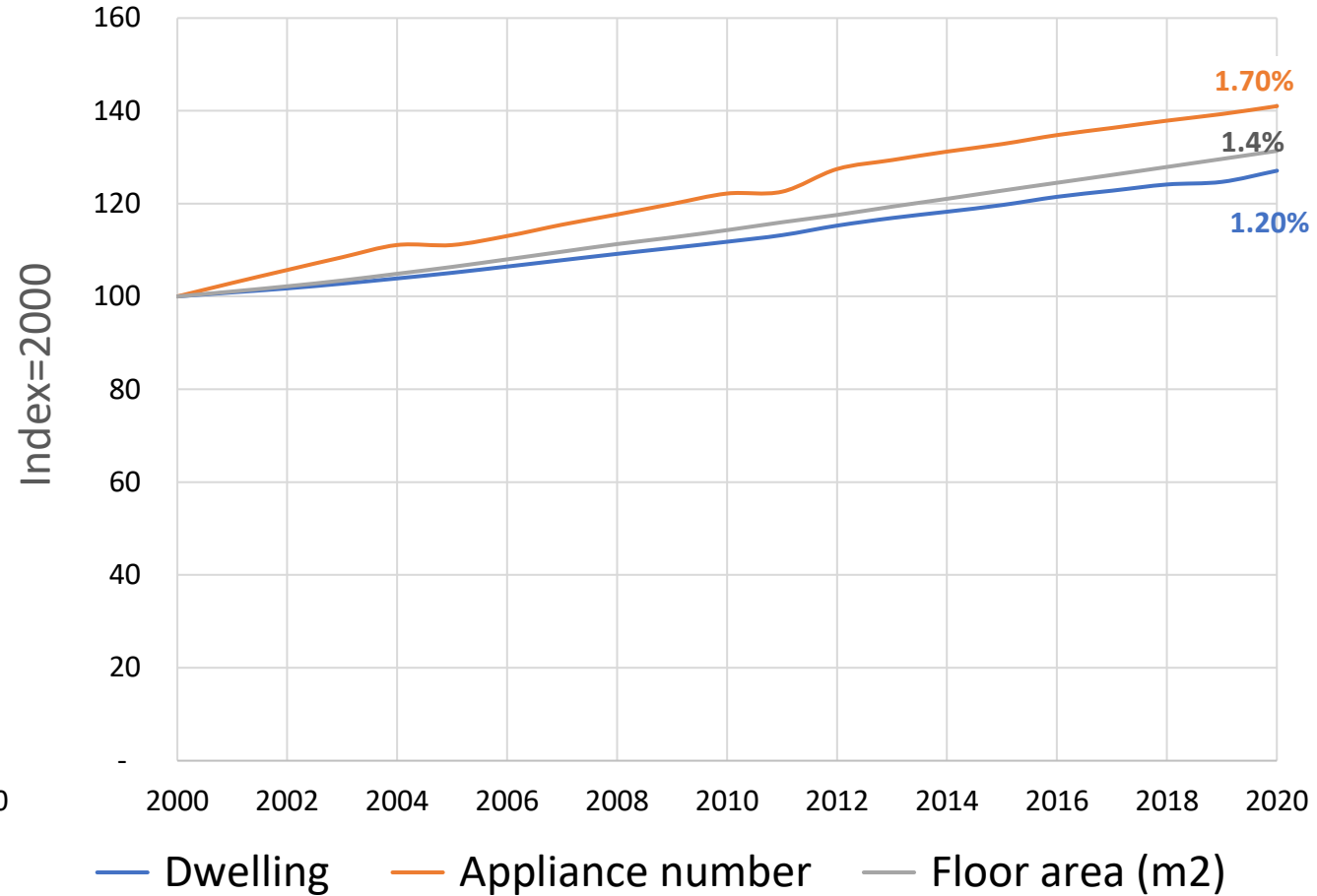
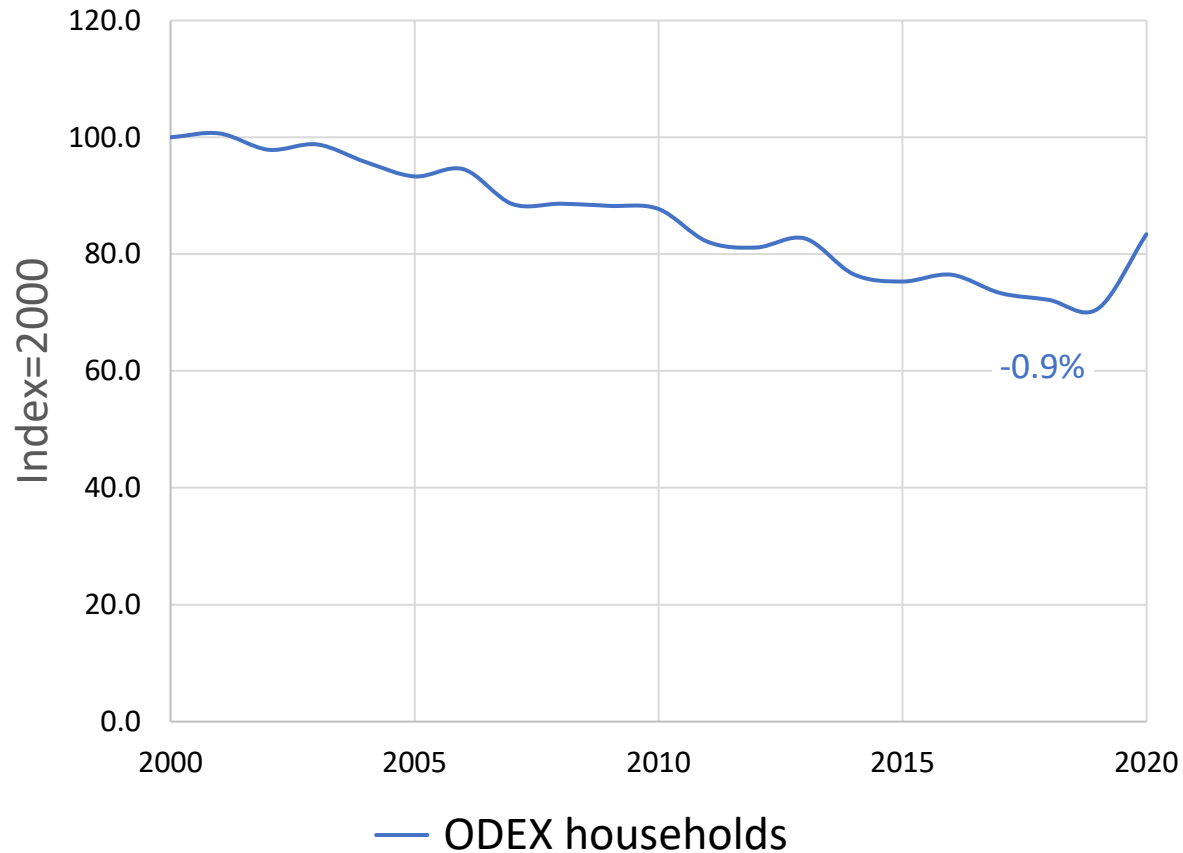
# Hot water (16% of households' TFE)



# Lighting and Appliances (9% of households' TFE)

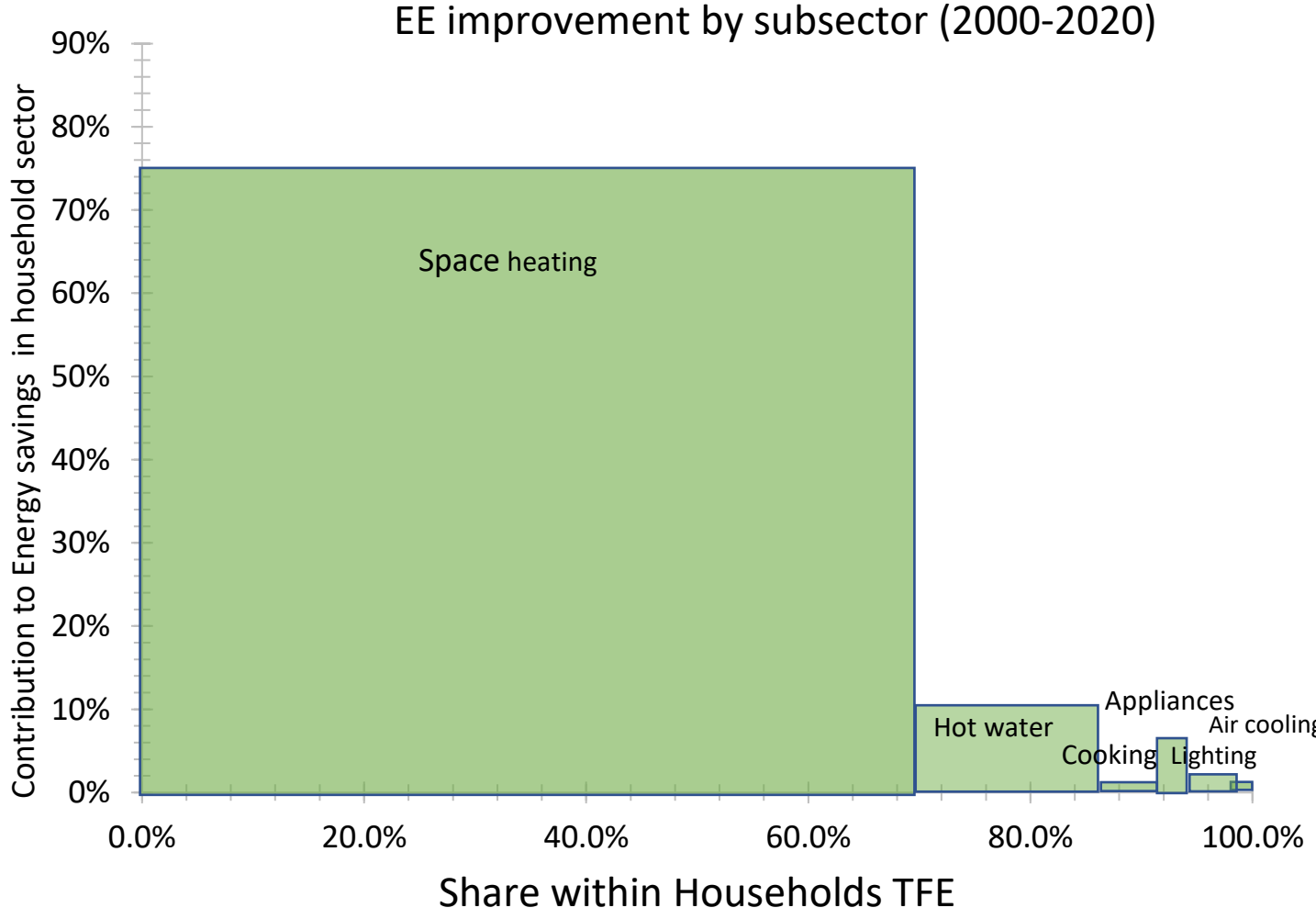
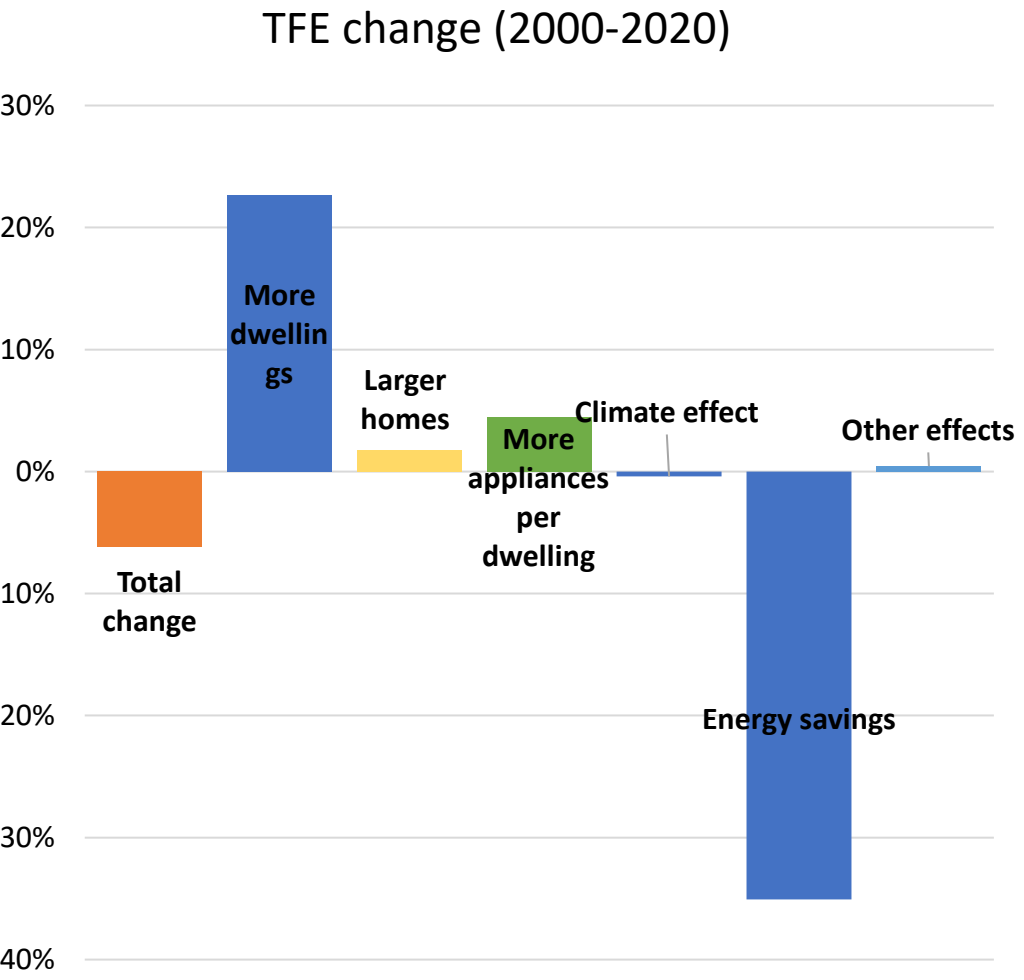


# Household ODEX

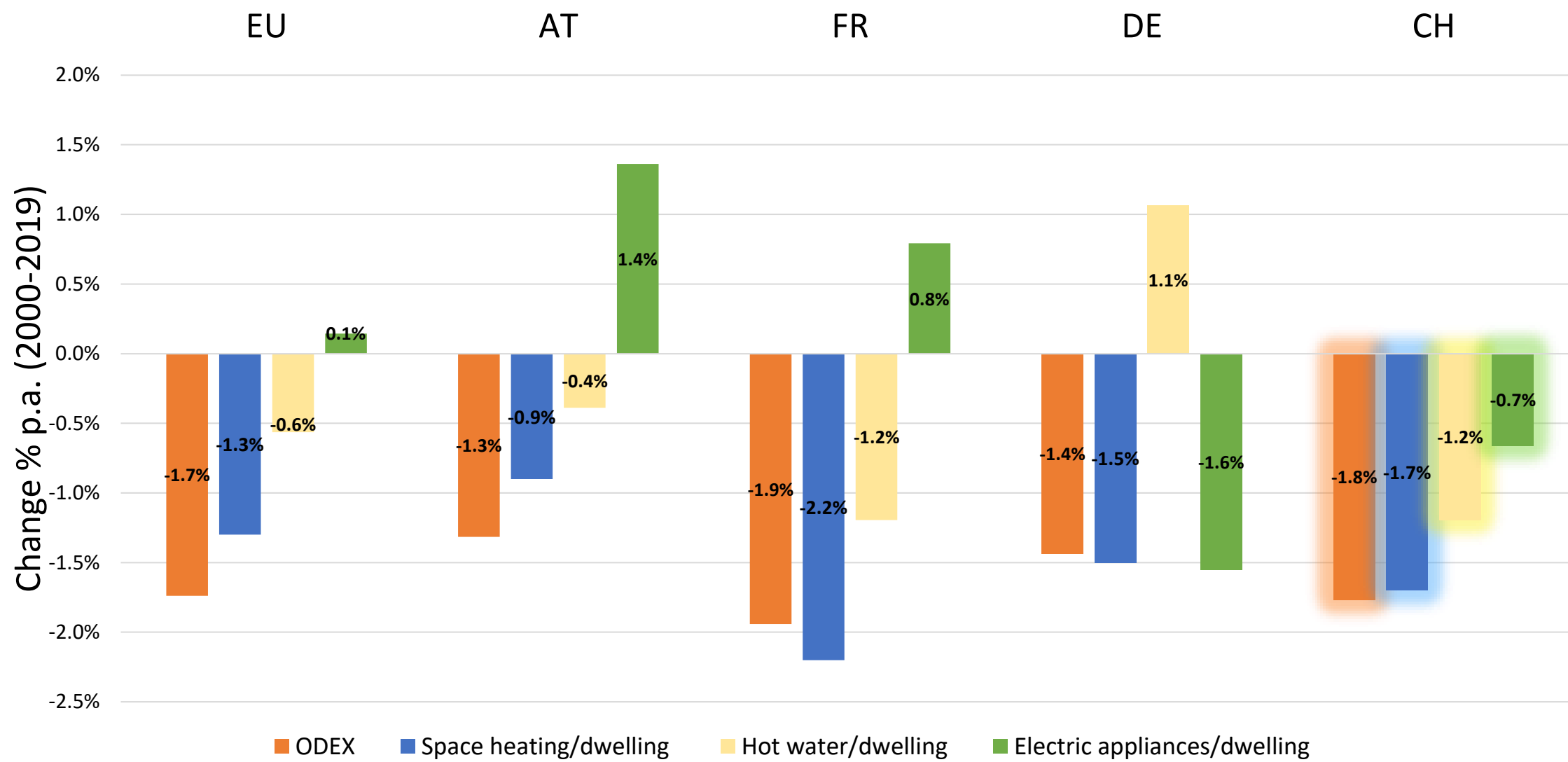




# Decomposition analysis – Household sector

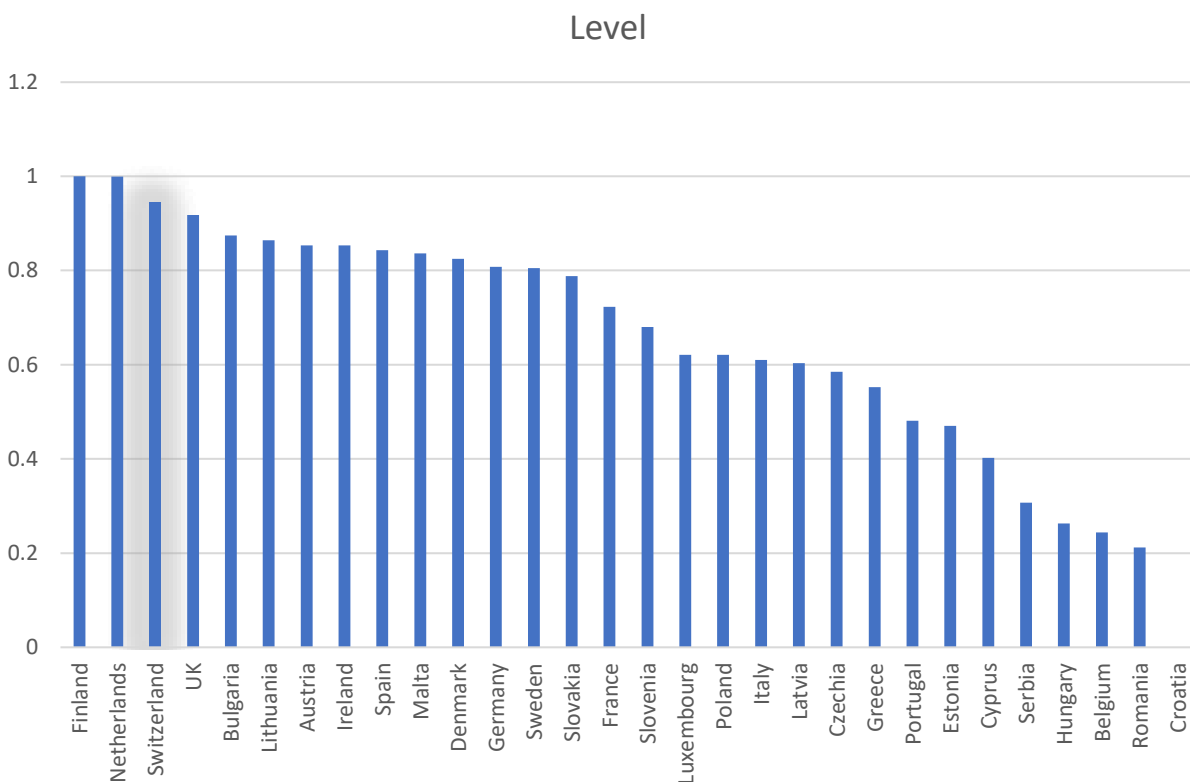


# Country comparison (2000-2019)



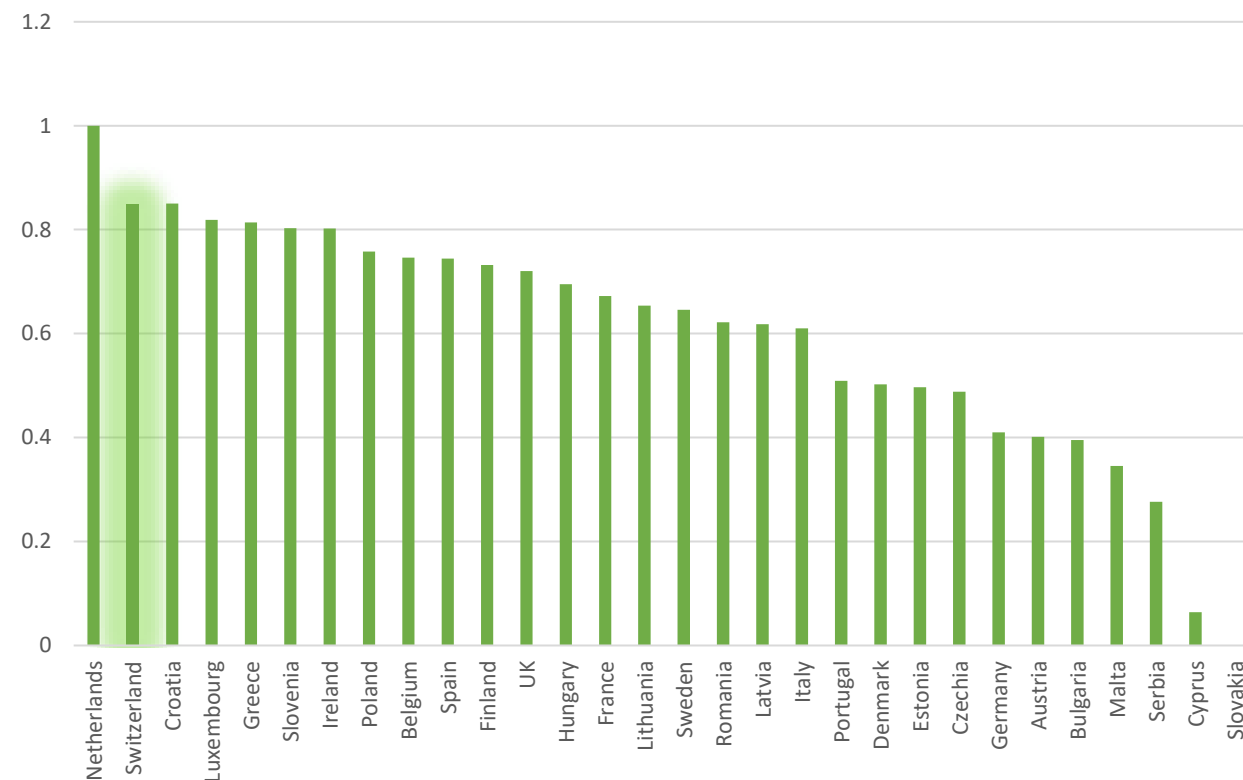
# Scoreboard

## Level Scoreboard (2019)



3<sup>rd</sup> rank

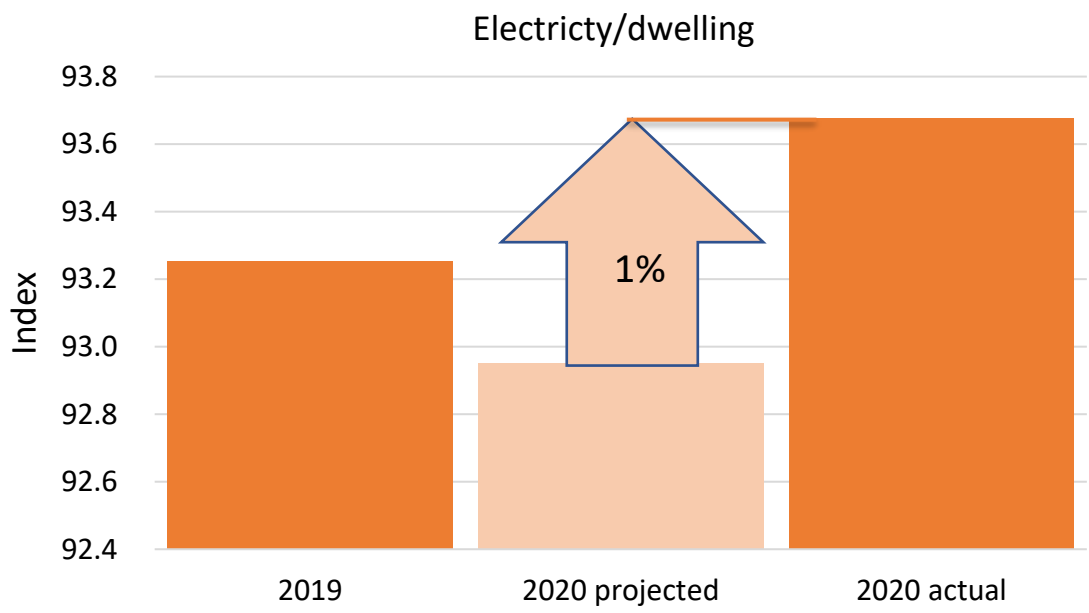
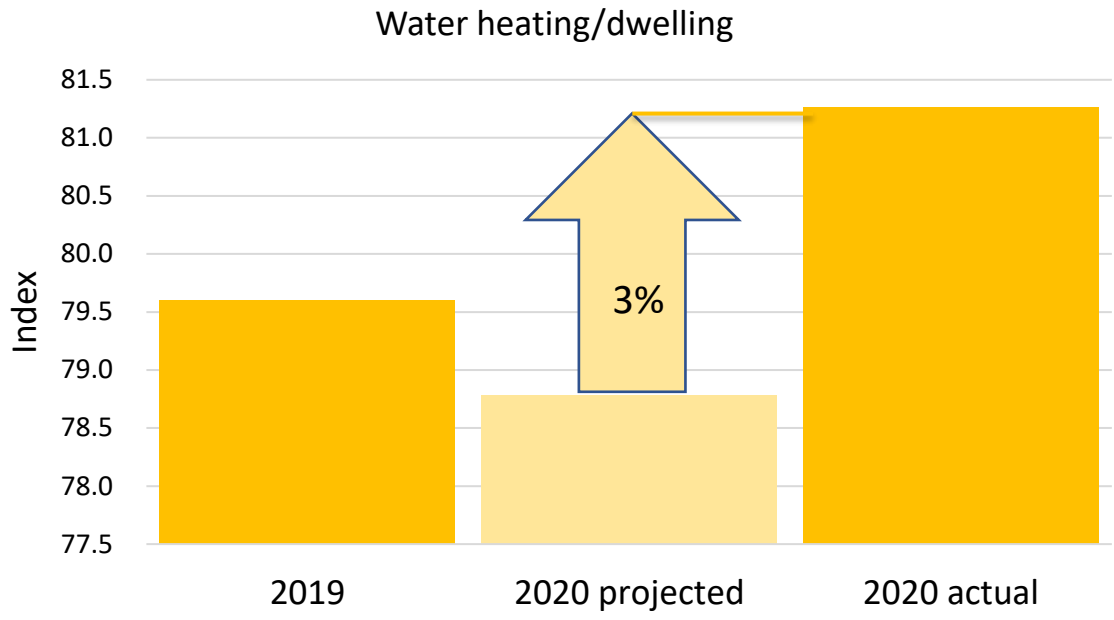
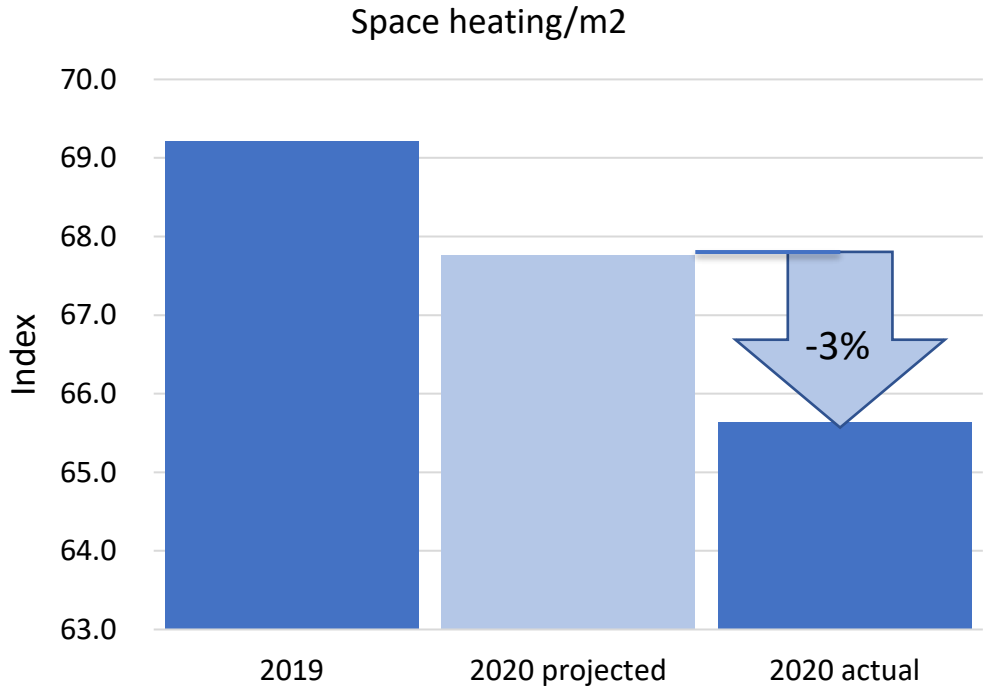
## Trend Scoreboard (2000-2019)



2<sup>nd</sup> rank

Combined : 1<sup>st</sup>

# Covid effect



# Conclusions

## Activity :

- More dwellings (1.2% p.a.)
- Larger homes (0.2% p.a.)
- More appliances per dwellings (0.5% p.a.)

## EE improvement :

- Space heating (2.1% p.a.)
- Water heating (1% p.a.)
- Electricity (0.3% p.a.)
- Overall sector ODEX (0.9% p.a.)

## Scoreboard:

- Level : Ranks 3<sup>nd</sup>
- Trend : Ranks 2<sup>nd</sup>
- Combined : Ranks 1<sup>st</sup>

## Effect of Covid:

- More prominent in the water heating and electricity consumption.