



Eurostat's data on energy consumption and energy efficiency: current key indicators and what's next!

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About Eurostat

- Eurostat is the statistical office of the European Union
- Eurostat is one of the Directorates-General of the European Commission
- the European Statistical System: partnership with national authorities

About energy statistics in Eurostat

- Reporting obligations: Regulation (EC) No 1099/2008 on energy statistics
- Data collections cover 40 reporting countries
- <https://ec.europa.eu/eurostat/web/energy/overview>

Energy statistics & energy efficiency





- Commodity balances and energy balances are produced for decades
- In general, methodology is internationally comparable following the same principles as the International Energy Agency and United Nation's statistics
- Energy efficiency is not shown in energy balances as fuel
- Calculating energy savings and estimating energy efficiency improvements is based on balances – these are very much linked.
- Decomposition analysis often requires more detailed data and data from other statistical domains → data on a different reporting schedule
- We now have more detailed official statistics on final energy consumption (aka disaggregation of final energy consumption)

Energy statistics & energy efficiency

- Commodity balances and energy balances are produced for decades

- In general, following the same principles as the United Nations' statistics

<https://ec.europa.eu/eurostat/web/energy/database>

- ⊕ Energy balances (nrg_bal) 
- ⊕ Supply, transformation and consumption - commodity balances (nrg_cb) 
- ⊕ Disaggregated final energy consumption (nrg_d)
- ⊕ Energy indicators (nrg_ind)
- ⊕ Share of energy from renewable sources (nrg_ind_share) 
- ⊕ Energy infrastructure and capacities (nrg_inf)
- ⊕ Stocks (nrg_stk)
- ⊕ Trade by partner country (nrg_t) 

- Energy efficiency improvements is

- Calculating energy efficiency improvements is based on data and data from schedule

- Decomposing energy efficiency improvements is based on data and data from schedule

- We now have more detailed official statistics on final energy consumption (aka disaggregation of final energy consumption)

Households

- Introduced in the legal act in 2014
- Detailed manual was developed in close cooperation with reporting countries
- Statistics is now regularly collected and published

Households

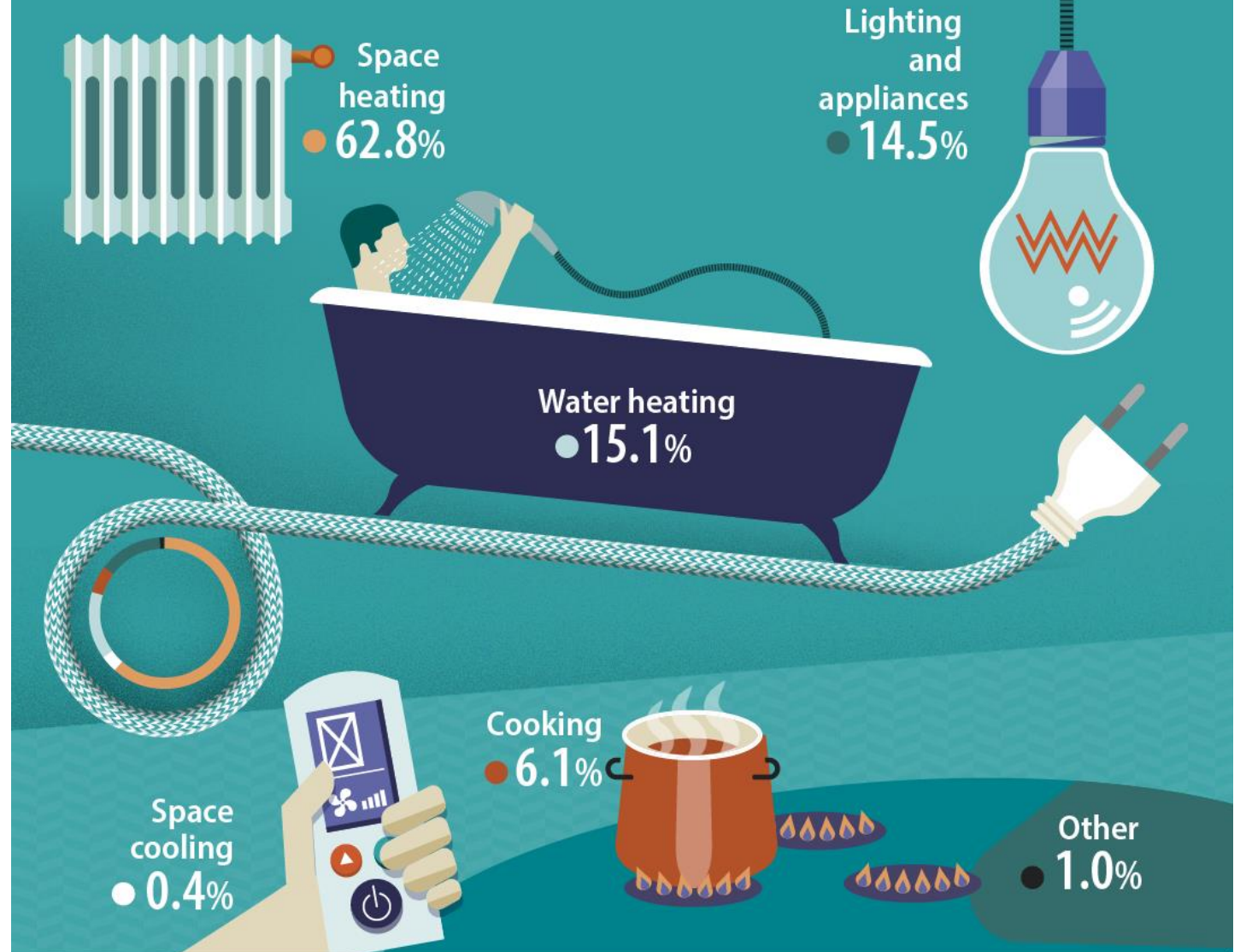
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europa
Manuals and guidelines

Manual for statistics on energy consumption
in households

europa
EUROPEAN COMMISSION

Energy consumption in EU households (2020)



Industry

- Introduced in the legal act in 2019
- Data for EU Member States available for reference years 2020 & 2021
- Disaggregation key: NACE rev. 2
- Mandatory elements + voluntary elements
- Voluntary items include selected end-uses by process
e.g. Energy used for cold production (refrigeration)
- Data confidentiality issues; varying based on the size of country

Transport

- First mandatory reference year: 2022
- Reporting deadline: 31 March 2024 (T+15 months)
- Mandatory elements
 - **Rail:** High-speed rail, Conventional rail: passengers, Conventional rail: Freight, Metro and tram
 - **Road:** Heavy-duty vehicles carrying freight, Collective transport, Cars and vans, Other road transport
 - Domestic aviation, International aviation
 - Domestic navigation, International marine bunkers
 - Pipeline transport
 - Not elsewhere specified
- Additional voluntary elements
 - passenger–freight split for aviation and domestic navigation
 - fuel use in territory for road transport categories

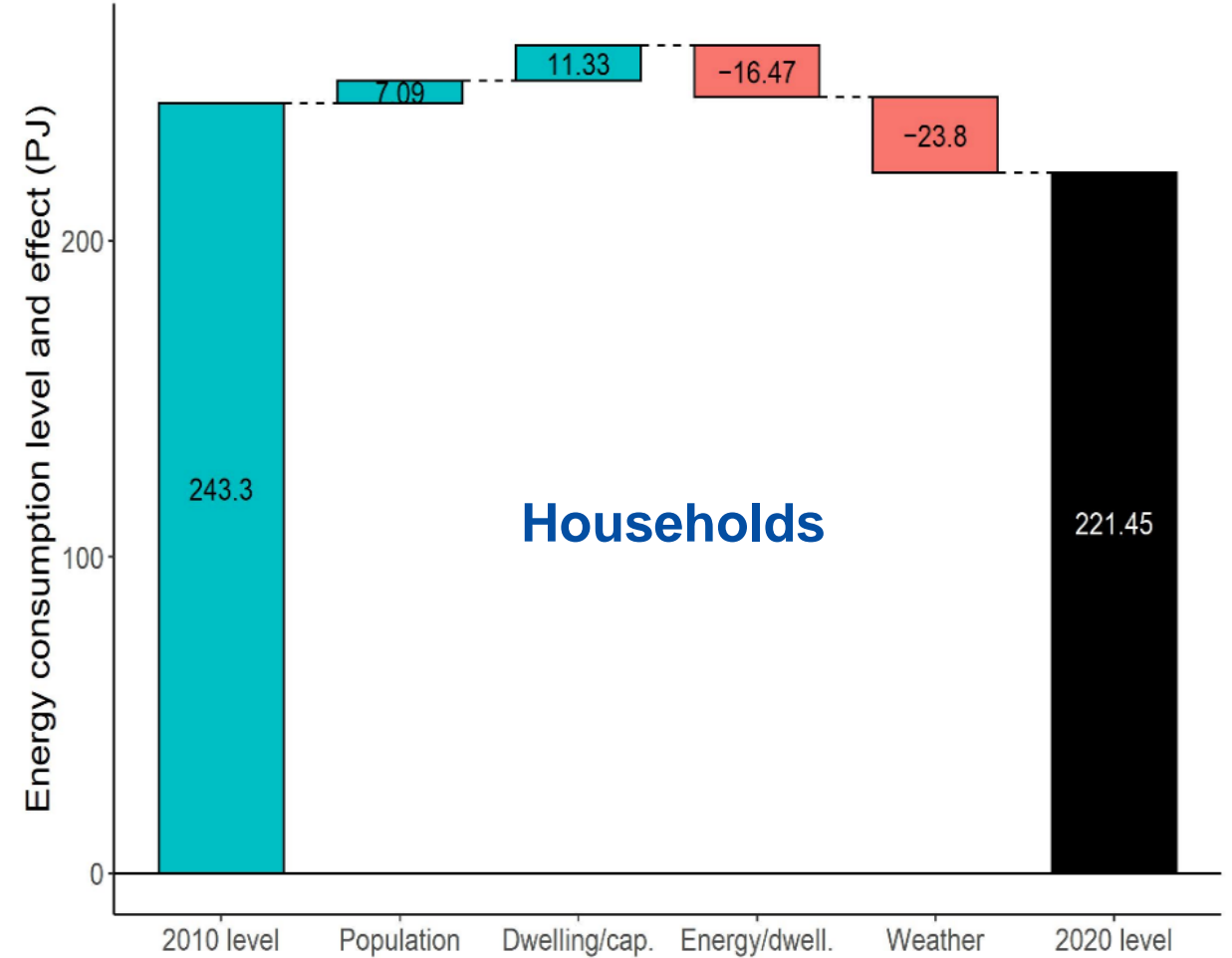
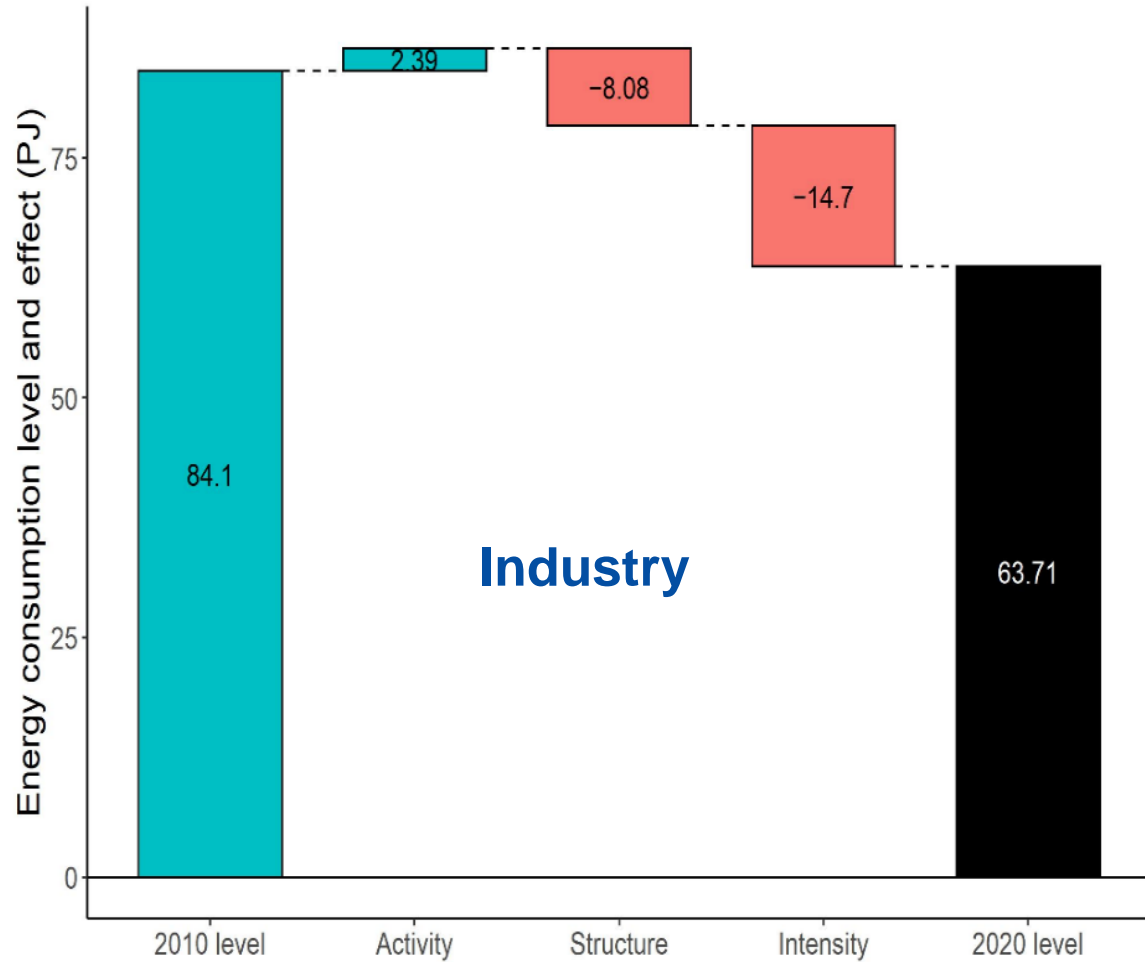
Services

- First mandatory reference year: 2022
- Reporting deadline: 31 March 2024 (T+15 months)
- Disaggregation key: NACE rev. 2 + Data centres
- Includes also additional voluntary items
 - Specific end-uses in selected NACE categories
 - Additional NACE subcategories: mainly following energy accounts (PEFA)

Project: Decomposition analysis

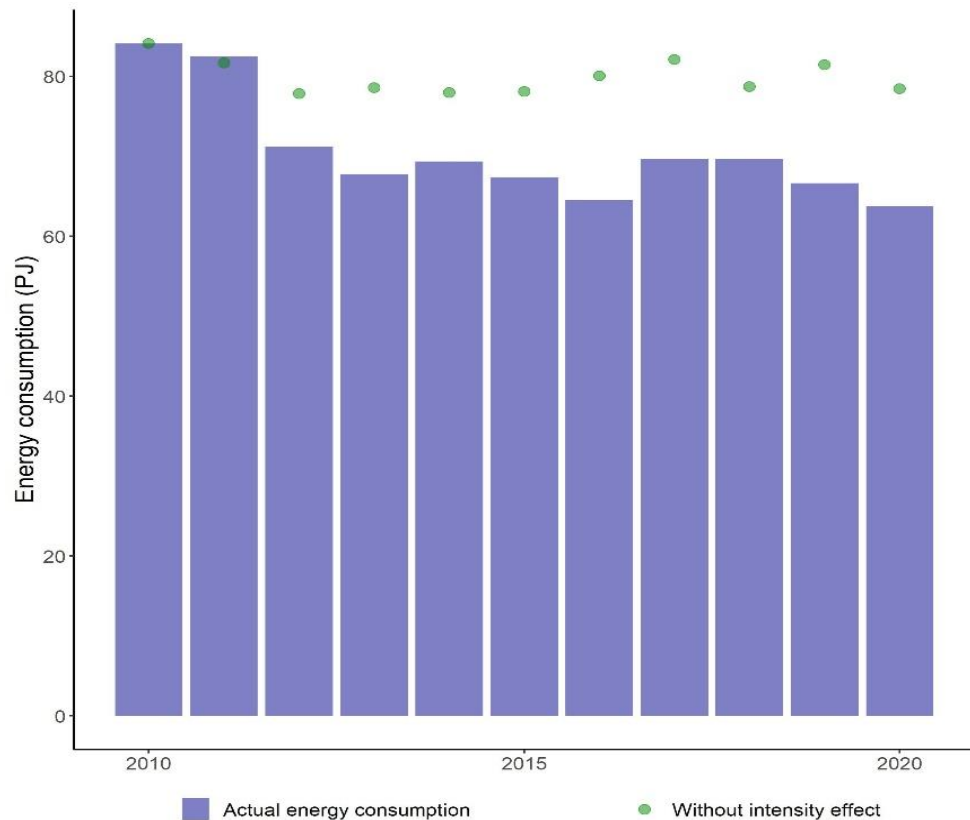
- Based on official statistics only: no estimates, no modelling
- Driving principle: if we combine only official statistics into an indicator, the status of such indicator can be official statistics
- Data completeness (including statistical confidentiality)
- Limited by lack of official statistics on certain aspects
- Project to explore if this approach is feasible and can deliver results
- Project should finish this year
- Possible will result in new datasets and new data visualisation tools

Eurostat project: Type of results (1)

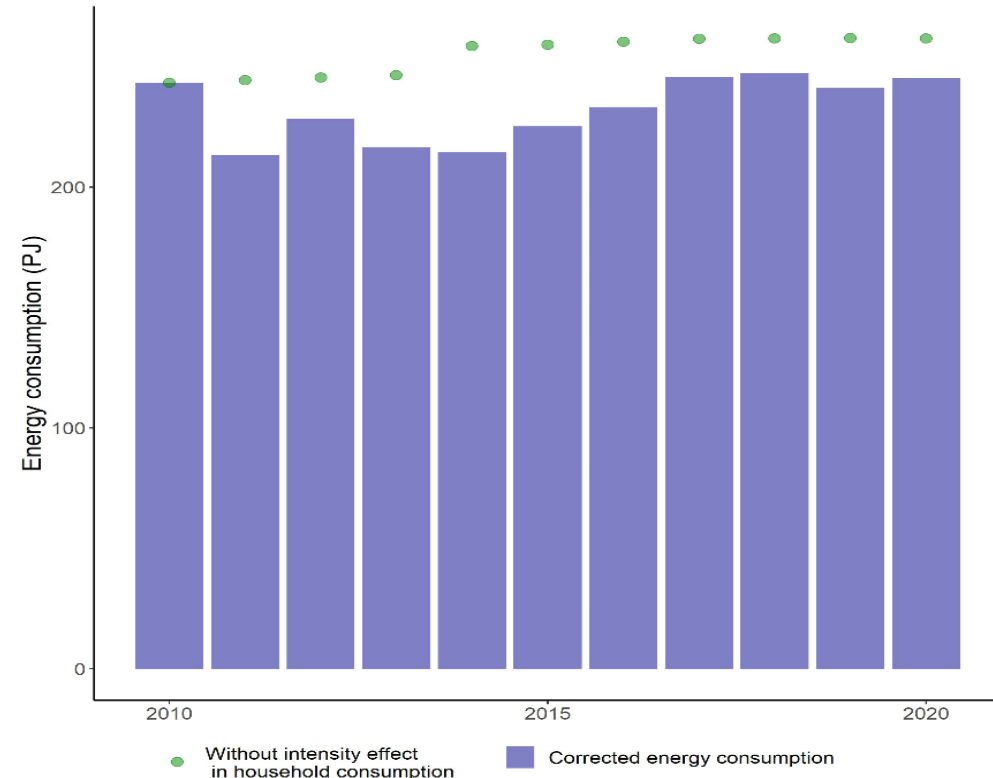


Eurostat project: Type of results (2)

Actual energy consumption in the industry vs theoretical (without energy intensity improvements)



Climate-corrected energy consumption of households vs theoretical (without energy intensity improvements)



Thank you!

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