ODYSSEE-MURE

ODYSSEE database : energy savings calculation through top-down indicators

StreamSAVE+ Dialogue Workshop #02

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24 February 2026

Co-funded by the European Union under project ID 101215674. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or CINEA. Neither the European Union nor the granting authority can be held responsible for them.

ODYSSEE data base in brief

Data Coverage

Energy consumption data by sector and end-use and demand drivers

- Half energy consumption data and half non energy data
- 2/3 of data from horizontal sources (mostly Eurostat), 1/3 from national sources

Energy efficiency and CO2 indicators at macro or sectoral levels (200 to 300 indicators by country): from simple indicators of specific consumption/emission to advanced indicators, such as energy savings.

Temporal and geographical coverage

1990-2023 (from 2010 for most EnCs); 2024 for EU countries (from Eurostat +estimates for detailed indicators)

- 37 countries, EU average
- Data collected in an Excel template and published in an online data base : harmonized time-series, scopes and definitions through a standardized template and data collection guidelines

Access

Free access to EU ministries, EU public universities and EU-funded projects

ODYSSEE database update cycle for 2026

Enerdata

National teams + Enerdata

Enerdata
EU MS only

2024 Eurostat data updated in February- March for EU MS and the EU, in July for EnCs

2024 detailed national data published in October for EU MS* and the EU ; in December for EnC countries

2025 early estimates published in November for all EU MS and the EU

2025 early estimates recalibrated based on Eurostat aggregate data published in January 2027

*Only Eurostat data for two missing countries

ODYSSEE tools

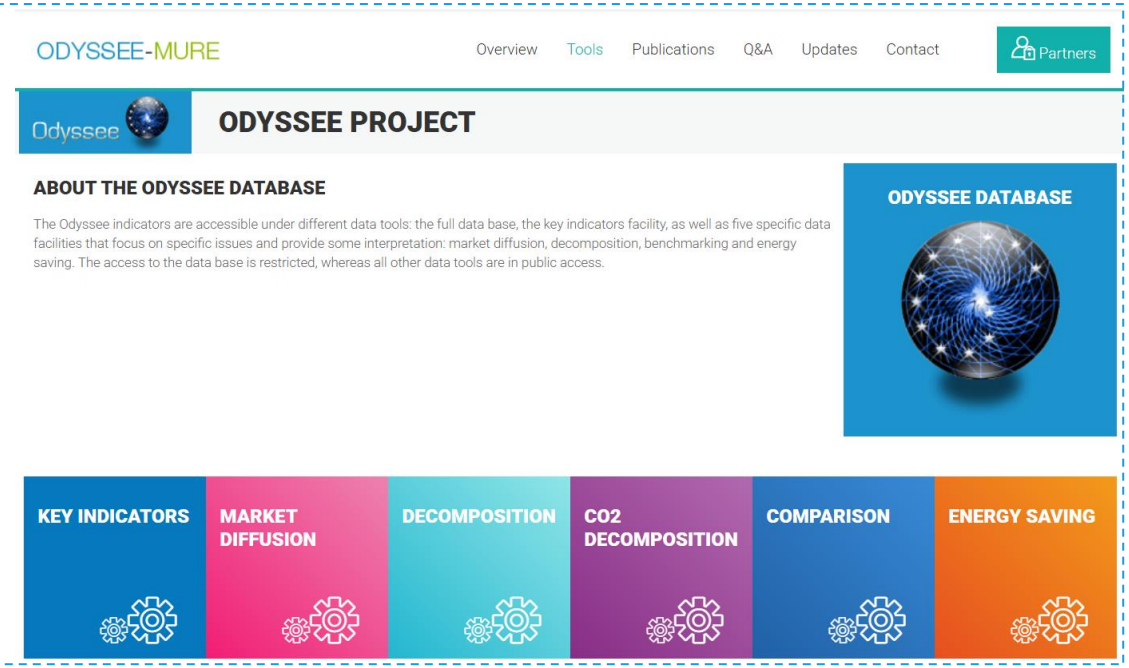
KEY INDICATORS	A selection of around 30 key energy efficiency indicators by sector developed within the ODYSSEE MURE project from 2000 until 2024.	October 2025 January 2026
MARKET DIFFUSION	Showing the market diffusion of energy efficient technologies and practices as well as end-use renewables in the household, services and transport sector	October 2025 February 2026
DECOMPOSITION	Explaining the variation in energy consumption over a given period through a **decomposition** into different explanatory **effects**.	October 2025 January 2026
CO2 DECOMPOSITION	Explaining the variation in CO2 emissions from fuel combustion over a given period through a **decomposition** into different explanatory **effects**	December 2025
COMPARISON	Enabling comparison of energy efficiency performance by sector between reference countries for the last year available.	December 2025
ENERGY SAVING	Compiling trends and targets for primary and final energy consumption as well as energy savings.	December 2025 February 2026

Available on the project website: https://www.indicators.odyssee-mure.eu/

ODYSSEE database and tools

Website analytics at end of December 2025:

- 2,527 active users; 5,000 database views.
- Most viewed tools: Key indicators (1st position); Decomposition (2nd position);
- Most viewed publications: Sectoral profiles (Transport)



Energy savings calculation in ODYSSEE

1

Calculation of ODEX index at sector level to assess energy efficiency trends:

→ Trends are expressed as an index of variation of specific energy consumption by end-use or sub-sector,

→ An average index for the sector is calculated, weighted by each end-use/sub-sector share in the sector's energy consumption.

2

Calculation of energy savings (ES) based on the energy efficiency index, ODEX.

ODEX is equal to the ratio between the energy consumption at year t (E) and a fictive consumption that *would have happened* without energy savings.

$$ES = E * ((100/ODEX)-1)$$

Energy savings calculation in Odyssee

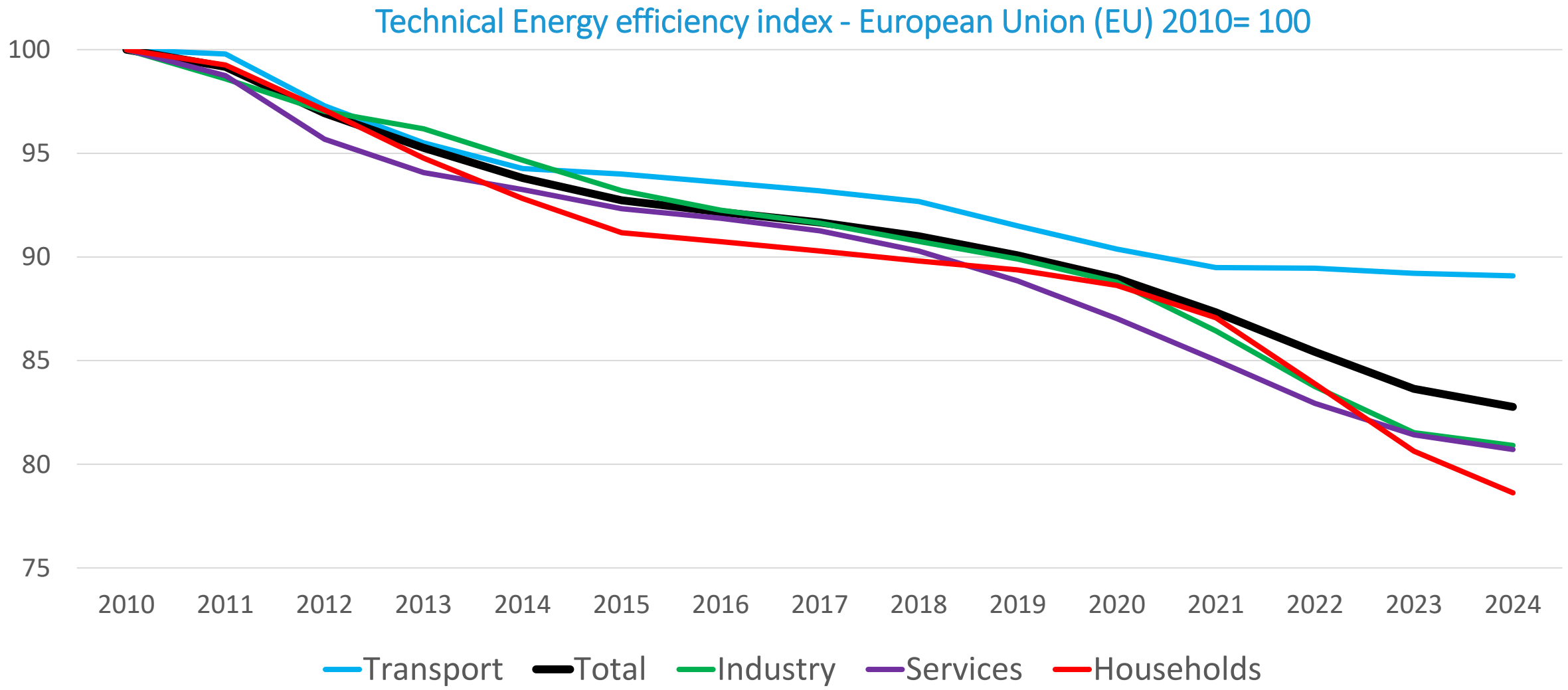
ENERGY SAVING

In ODYSSEE, we consider that technical progress cannot reverse on the short term: in other words, energy efficiency cannot decrease → **e.g.** once an equipment or building has reached a certain level of efficiency, its efficiency cannot decrease.

→ Introduction of the concept of "technical efficiency", by opposition to apparent, or gross, efficiency.

→ An increase in the indicators of specific consumption by sub-sector is not interpreted as a decrease in efficiency, but rather as the absence of energy efficiency progress: if the indicator of specific consumption increases in year t, it is considered to be due to non-technical factors, and the technical energy efficiency is frozen to the level of the previous year.

Energy savings calculation in Odyssee



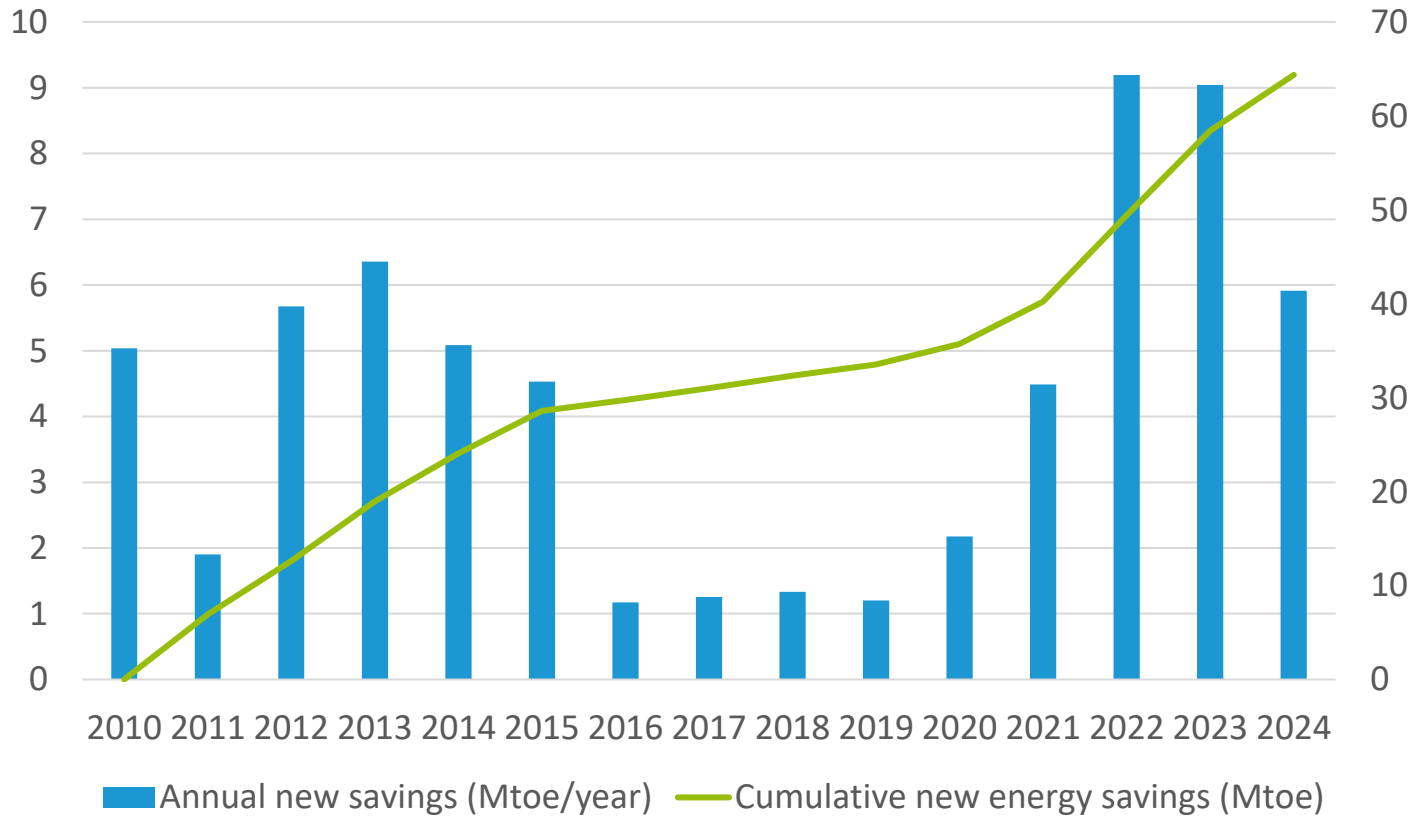
Energy savings calculation in Odyssee

ENERGY SAVING

In ODYSSEE, energy savings are first calculated as annual new energy savings in reference to the previous year (blue bars). These annual savings are then cumulated over a period (green line).

For instance, in 2024, "cumulative new energy savings" for households were close 65 Mtoe : this means that without savings since 2010, energy consumption would have been 65 Mtoe higher in 2024.

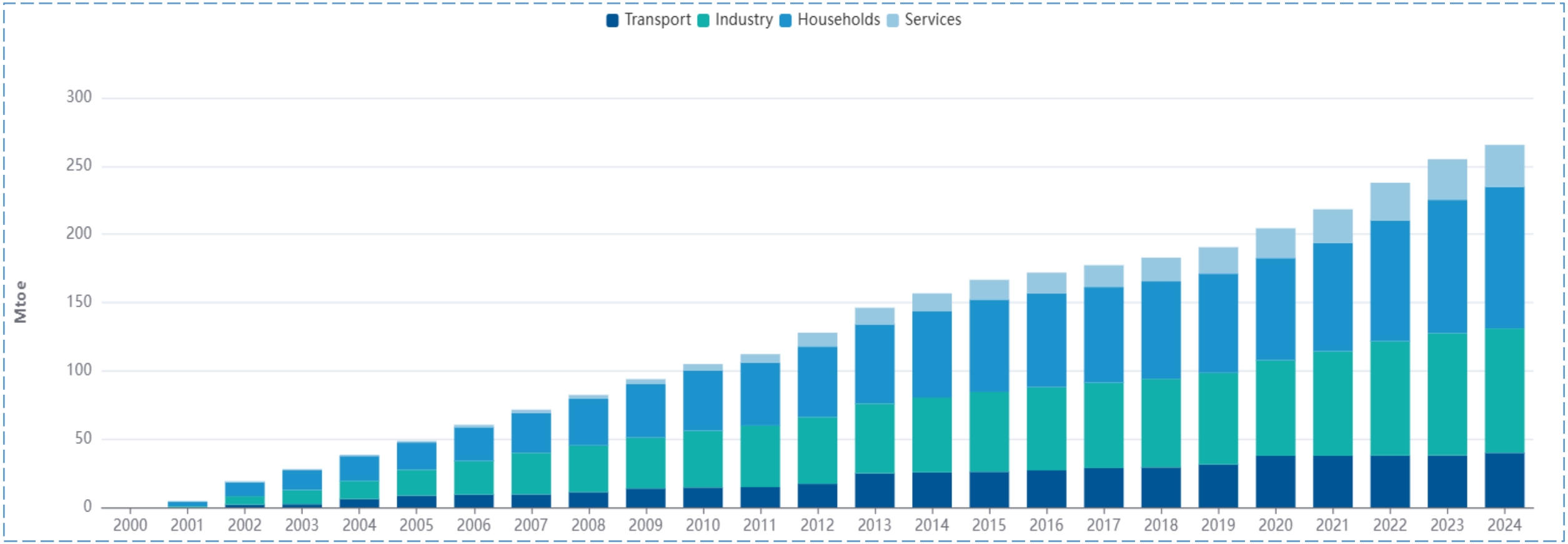
2 ways to express energy savings: the case of households (EU)



Energy saving tool

ENERGY SAVING

Final energy savings – European Union (2000 – 2024)



Decomposition tool: role of energy savings

DECOMPOSITION

Variation in final energy consumption – European Union (2000 – 2024)