



HOME RENOVATION ROADMAPS TO ADDRESS
ENERGY POVERTY IN VULNERABLE RURAL
DISTRICTS

Basic concepts of energy use in dwellings



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List of Arguments



**Energy analysis
of the household**



Changing habits



Energy analysis of the household



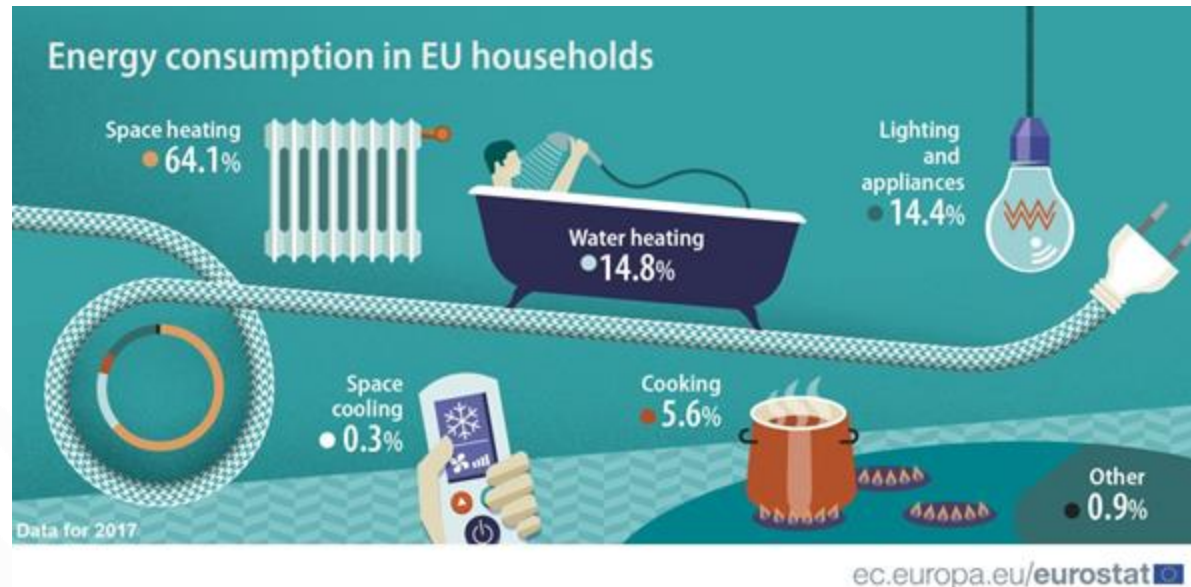


How we use energy at home

A significant portion of energy in households is used for **space heating**. This can include central or individual heating systems

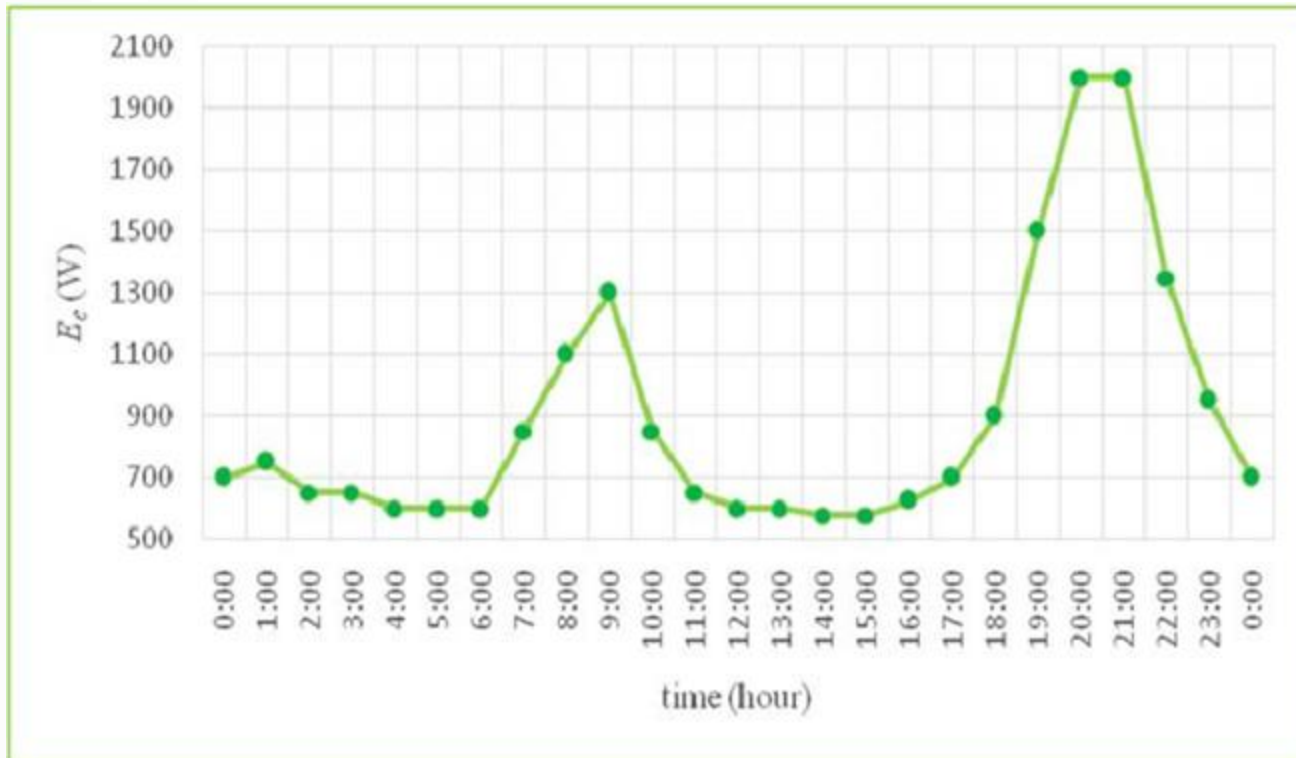
Energy is used to **heat water** for **sanitary use**, such as showers and sinks.

Lighting and appliances such as refrigerators, ovens, washing machines, and dryers **contribute significantly** to household energy consumption.





How household consumptions are distributed throughout the day



During the **morning hours** there is a **surge in energy usage** as people engage in morning activities such as cooking, using hot water, and operating electronic devices. Energy consumption tends to dip slightly as people leave for work or school, but appliances and lights continue to contribute to overall usage. Energy demand **increases in the afternoon** with people returning home, cooking dinner, and using various electronic devices and stays relatively high during the evening. Energy demand decreases as people sleep, with only essential appliances running



Typical installations in the households



Heating, Ventilation, and Air Conditioning (HVAC) Systems:

HVAC systems, especially during extreme weather conditions, can account for a substantial portion of energy consumption. This includes both heating in winter and cooling in summer.



Water Heating:

Water heaters, whether powered by electricity, gas, or other sources, are a major contributor to household energy consumption. They are used for activities like bathing, washing dishes, and laundry.



Typical installations in the households



Lighting:

Although individual light bulbs may not consume a lot of energy, the collective usage of lighting throughout a household can contribute significantly. Energy-efficient lighting options, such as LED bulbs, can help reduce this impact.



Electric Range and Oven:

Cooking appliances, especially electric stoves and ovens, can consume a notable amount of energy. The energy usage depends on cooking habits and the efficiency of the appliances.



Typical installations in the households



Refrigerators and Freezers:

Refrigeration appliances operate continuously and can be among the highest energy consumers in a household. The efficiency of newer models has improved, but these appliances still have a significant impact.



Washing Machines, Dryers and Dishwashers:

Laundry appliances, particularly electric or gas-powered clothes dryers, contribute to energy consumption. Dishwashers, particularly those with built-in water heating elements, can use a considerable amount of energy.



Changing habits





Psychological Perspective



**Behavioral Economics in
Energy Consumption**



Perception of Energy Use



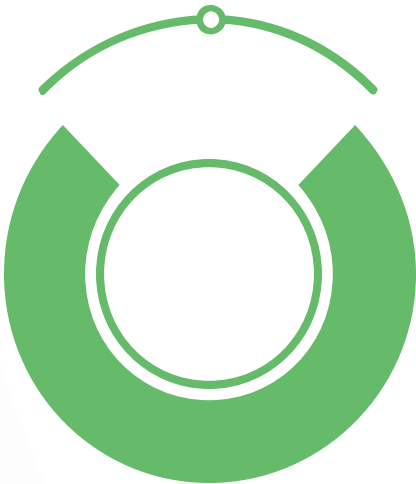
Education and Awareness



Feedback Systems



Behavioral Economics in Energy Consumption



Loss Aversion

People tend to prefer avoiding losses over acquiring equivalent gains. This can be leveraged by emphasizing the cost savings associated with energy-efficient practices.



Present Bias

Individuals tend to prioritize immediate rewards over future benefits. The importance of making the long-term benefits of energy efficiency more tangible and immediate has to be highlighted.



Perception of Energy Use



Cognitive Dissonance: In the context of energy consumption, cognitive dissonance can occur when individuals hold environmentally conscious beliefs but engage in behaviors that contribute to high energy consumption and environmental impact.



Understanding the environmental impact of our energy choices: As we delve into the consequences of our actions, we become more aware of the intricate connection between our behaviors and their effects on the environment.



Visibility of Energy: The integration of real-time monitoring and smart home devices brings energy consumption to the forefront, fostering a conscious and empowered approach to resource usage.



Education and Awareness



Empowering consumers with information is

key: Clear and easily understandable energy efficiency labels provide instant insights into the environmental impact of a purchase. This straightforward nudge prompts individuals to opt for products aligned with their values, fostering a positive shift toward sustainability.



Feedback Systems



Residents are encouraged to set and achieve **personalized, measurable energy-saving goals** for reducing their monthly energy consumption, these goals provide residents with a clear roadmap for individual energy conservation.



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Thank you for your attention

