# **ENERGY POVERTY IN GREECE**

Zoi Iliopoulou, Efthimios Zervas

Laboratory of Technology and Policy of Energy and Environment, School of Applied Arts and Sustainable Design, Hellenic Open University

### INTRODUCTION

The use of energy is a critical issue in Greece (1, 2, 3). Energy poverty is a situation in which a person/familly cannot obtain the necessary energy to keep their home at a comfortable temperature and meet the basic needs, to maintain their health and well-being, because of inadequate resources or living conditions. The aim of this study is to reveal the phenomenon of energy poverty, a new form of poverty, in Greece (4,5,6,7).

#### **METHODS**

All the necessary data were collected through an appropriately designed questionnaire during autumn of 2022, throughout the Greek territory, representative of the demographic profile of the population. The total number of valid guestionnaires is 2006. The guestionnaire contains 62 questions, collecting data on the technical characteristics of the residence, on energy costs, on household income, on the energy behaviors of household residents, and in general on their standard of living.

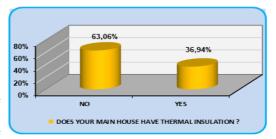
## Characteristics of sample

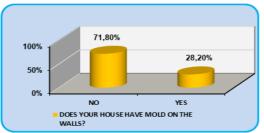
The mean age of the participants is 47 years, with 50,5% males and 49,5% females and the 59% consists of families with 2-4 persons. The 70% are employed people, the 25% have a university degree and the 46% have an annual income of 10-20.000€.

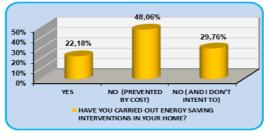
### **RESULTS**

Six out of 10 citizens answered that their home has no thermal insulation with mean date of construction in 1988. The 28% of the households declare that have mold on the walls. Also 25% of the respondents stated that have openings with single glazing and 66% with uninsulated aluminum frames.

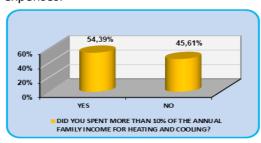
The 30% of households state that have not taken any action to reduce thermal losses and the 48% answered that they want to carry out saving interventions but are prevented from doing so by the cost of these interventions





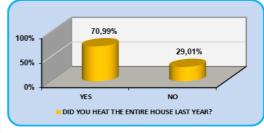


The 56% declare that they use oil as heating fuel, and the 52% use electricity. Using the threshold of energy poverty as the 10% of income spend on domestic energy, it is found that the 54% of the respondents are energy poor. In other words, 6 out of 10 households are unable to meet sufficiently their energy needs and reduce other expenses. (4),(5)



Therefore 3 out of 10 citizens are forced to heat only certain parts of their residence (like bedrooms and living room), and not the whole house, to reduce their energy consumption.

Another face of energy poverty is that almost the 46% of the respondents declare that they heat their residence only 0-5 hours per day during the last winter and a significant part of the sample reduced other Kalyvas, E. Zervas, Low Carbon Energy expenses to cover heat expenses. This is a clear impact of the economic crisis in 307, 2021. Greece on energy poverty.







### CONCLUSIONS

According to the results of this study, a large proportion of households in Greece are affected by the problem of energy poverty and should benefit from targeted policies to alleviate it.

### REFERENCES

- 1. Bibliometric analysis of scientific production on energy sustainability and climate change, T. Technologies in Sustainable Energy Systems, 287-
- 2. Assessment of the Greek national plan on energy plan of energy and climate change- Critical remarks. E. Zervas, L. Vatikiotis, Z. Gareiou, S. Manika, R. Herrero-Martin, Sustainability 13 (23), 13143, 2021
- 3. Environmental Kuznets Curve in Greece in period 1960-2014, E. Kotroni, D. Kaika, E. Zervas, International Journal of Energy Economics and Policy 10 (4), 364-370, 2020
- 4.Determination of public opinion on energy poverty. Application in Athens, Greece, E. Kaidatzis, Z. Iliopoulou, Z. Gareiou, E. Drimili, N. R Herrero-.Martin, Matsouki, E. Zervas, 1<sup>st</sup>International Conference on Environmental Design, 24-25 Oct 2020, Athens, 2020.
- 5. Analysis of the world scientific production on Energy Poverty, Fuel Poverty and Energy Vulnerability, Z. Iliopoulou, N. Rapsomanikis, E. Zervas, IOP Conference Series: Earth and Environmental Science 1123 (1), 012059, 2022.
- 6. Energy use and saving in residential sector and occupant behavior: A case study in Athens, C. Vogiatzi, G. Gemenetzi, L. Massou, S. Poulopoulos, S. Papaefthimiou Energy and Buildings, 181,1-9, 2018.
- 7. Evaluations of energy upgrading interventions in social housing neighborhoods in Greece: An approach that takes into account residents' views, A. Kipourou, S. Giannarou, E. Zervas, E3S Web of Conferences 426 01010 2022