

**Conference
Abstracts**



ICEER 2019

The 6th International Conference On Energy
and Environment Research

July 22-25, 2019, The University of Aveiro, Portugal

ICEER2019

2019 The 6th International Conference on
Energy and Environment Research –
Energy and environment: challenges
towards circular economy

Publisher

Instituto Superior de Engenharia do Porto

Editors

Nídia de Sá Caetano, Carlos Borrego,
Maria Isabel da Silva Nunes, Carlos Felgueiras

ISBN

978-989- 54236-8-2

Printing

Lidergraf, SA

Number of copies

200

BOOK OF ABSTRACTS

University of Aveiro, Portugal | July 22-25, 2019



2019 The 6th International

Conference on Energy and Environment Research

Energy and environment: challenges towards circular economy

University of Aveiro

Department of Environment and Planning

Campus Universitário de Santiago, 3810-193 Aveiro, Portugal

<http://www.ua.pt/>

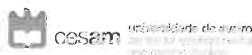
Organizer



Co-Organizers



Sponsors



Media Partner



ICEER2019

2019 The 6th International Conference on
Energy and Environment Research –
Energy and environment: challenges
towards circular economy

Publisher

Instituto Superior de Engenharia do Porto

Editors

Nidia de Sá Caetano, Carlos Borrego,
Maria Isabel da Silva Nunes, Carlos Felgueiras

ISBN

978-989-54236-8-2

Printing

Lidergraf, SA

Number of copies

200

Younger VS. Older Homeowners in Building Energy-Related Renovations: Learning from the Portuguese Case

Prof. Maria Isabel Abreu¹, R. A. F. de Oliveira² and J. Lopes³

^{1,2,3}Polytechnic Institute of Bragança, School of Technology and Management, Campus de Santa Apolónia, Apartado 1134, 5301-857 Bragança, Portugal,
isabreu@ipb.pt; roliveira@ipb.pt; lopes@ipb.pt

ABSTRACT

The interest in energy-related renovations varies among homeowners and depend not only on personal and contextual factors but also on every-day life activities and social practices. In addition, some studies suggest that the homeowner's life stage have a significant role in shaping this interest. This study aims to understand the influence of the homeowner's age on the motivation for energy-related renovations of Portuguese single-family buildings and how this age is linked to the home-related and social practices that may encourage these renovations. A survey together with a qualitative research method were used. The younger Portuguese homeowners seems to be more environmentally conscious and adopt "little-by-little" energy renovations. For the older, if energy-related renovations are associated with aesthetics, indoor comfort conditions and sentimental meanings given to the home, it is more likely these renovations happen. However, both generations can be influenced by important life moments that trigger the renovation process.

Keywords: energy policy; energy-related renovation; homes; homeowners; social practice theory; user practices

1. INTRODUCTION

Since the majority of homes (70% across the EU) are owner-occupied and there is a considerable stock of single-family houses [1], it is fundamental to motivate homeowners to renovate in order to reduce energy consumptions. The policies to motivate are negotiated at an upper level by policy-makers based on common premises related with energy savings and technology adoption. However, several studies have been reinforcing that to understand why homeowners decide to renovate energy efficiently needs to consider personal and contextual factors together with social factors such as the everyday dynamics of life at home, routines, lifestyles and socially shared practices [2,3,4,5,6,7,8]. They concluded that the motivations for building energy-related renovations emerge also from the intentions of continuous home improvements related with aesthetics, trends, indoor environment, functionality, comfort, lifestyles and others. These motivations tend to change throughout the life of the homeowners because their perceptions of the world, their demands and their ambitions are constantly evolving. This brings to the discussion the importance of the homeowner's life stage connected with the daily life at home to explain the decision-making process to energy-related home renovation. The aim of this paper is to found how the Portuguese homeowner's age influence decision to energy-related home renovations and how this age is linked with the everyday home-related influence factors mentioned above.

2. MATERIALS AND METHODS

The analysis was based on a survey applied simultaneously with a qualitative research method involving behavioral direct observation to a group of fifty-seven Portuguese homeowners of single-family houses in 2016-17. The analysis reported in this paper is based on a preliminary stage of a larger scale research project on the home-related practices and social perspective of energy-related renovation of private homes. Three urban municipalities in the North of Portugal were considered for a preliminary approach. The sample were selected, initially, consulting the municipality services to identify districts with single-family building typologies constructed between 1970 and 2000. Previously, three in-depth interviews to experts (informants) were also made to help to prepare the survey structure. Based on this feedback, the final version of the survey was put into action at the home of the respondents to get a personal contact with the homeowners and their family.

3. CONCLUSIONS

In Portugal, different generations of homeowners should be handled differently in the motivation policies to increase the energy-related renovations. Some extraordinary moments in Portuguese respondents' stage of life were key moments that led to energy-related renovations. Policies should be target Portuguese homeowners in that specific life stage because it is more likely that renovation happen. The moment of buying a second-hand single-house, new child and the beginning of retirement are important dates. Younger homeowners usually perform more "little-by-little" energy renovations (sometimes DIY) compared with the older, who appreciate more single events for renovate. They have more daily practices related with this issue and many of them seek for comfort in an environmentally friendly home however they lack the financial conditions to do it. Financing support programs could be a good measure for this group. The middle age respondents (50-65) wish for a new lifestyle and social status and gives more importance to aesthetic. They prefer to adopt energy-related visible measures. The older generation respondents are those that have more financial capacity to invest but, at the same time, have less willingness to renovate. The older think more about the home conditions, functionality, safety and comfort in the everyday life and for the retirement phase. The meanings of the home and the householder's opinions inside the family also play an important role for them.

REFERENCES

- [1] Eurostat, Distribution of population by tenure status, type of household and income group, EU-SILC Survey (2017). Information on: http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=ilc_lvho02&lang=en
- [2] F. Bartiaux, K. Gram-Hanssen, P. Fonseca, L. Ozoliņa, T.H. Christensen, A practice-theory approach of homeowners' energy retrofits in four European areas, *Build. Res. Inf.* 42:4 (2014) 525-538. <https://doi.org/10.1080/09613218.2014.900253>
- [3] K. Gram-Hanssen, Existing buildings – Users, renovations and energy policy, *Renew. Energy* 61 (2014) 136-140. <https://doi.org/10.1016/j.renene.2013.05.004>
- [4] C. Wilson, L. Crane, G. Chrysoschoidis, Why do homeowners renovate energy efficiently? Contrasting perspectives and implications for policy, *Energy Res. Soc. Sci.* 7 (2015) 12-22. <https://doi.org/10.1016/j.erss.2015.03.002>
- [5] L. Vlasova, K. Gram-Hanssen, Incorporating inhabitants' everyday practices into domestic retrofits, *Build. Res. Inf.* 42:4 (2014) 512-524. <https://doi.org/10.1080/09613218.2014.907682>
- [6] K. Maréchal K., L. Holzemerb, Unravelling the 'ingredients' of energy consumption: Exploring home-related practices in Belgium, *Energy Res. Soc. Sci.* 39 (2018) 19-28. <https://doi.org/10.1016/j.erss.2017.10.025>
- [7] L. Tjørring, Q. Gausset, Drivers for retrofit: a sociocultural approach to houses and inhabitants, *Build. Res. Inf.* 47:4 (2018) 394-403. <https://doi.org/10.1080/09613218.2018.142372.2>
- [8] G. Bravo, G. Pardalis, K. Mahapatra, B. Mainali, Physical vs. aesthetic renovations: Learning from swedish house owners, *Buildings*. 9:1, 12 (2018). <https://doi.org/10.3390/buildings9010012>