

# Sustainable Housing 2016

Proceedings of the International Conference  
on Sustainable Housing Planning, Management and Usability

Edited by

Rogério Amoêda  
Cristina Pinheiro





## SUSTAINABLE HOUSING 2016



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*Porto, Portugal  
16-18 November*

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## Foreword

***SUSTAINABLE HOUSING 2016 – International Conference on Sustainable Housing Planning, Management and Usability*** was an initiative of Green Lines Institute for Sustainable Development that aimed to go further on the discussion of the sustainable improvement of housing design and construction, including the user point of view.

Currently, the issue of housing is shown as a major challenge within the latest Sustainable Development concept brought by the Post-2015 Development Agenda, which is based on 17 objectives called as Sustainable Development Goals (SDG).

Among the many goals that were settled, objectives 1 (No poverty), 3 (Good health), 6 (Clean water and sanitation), 7 (Renewable energy), 9 (Innovation and infrastructure), 10 (Reduced inequalities), 11 (Sustainable cities and communities), 12 (Responsible consumption), 13 (Climate action) and 17 (Partnerships for the goals) are of particular relevance to rethink how to build our homes, as well as establishing more participatory processes for communities. These objectives include economic, social, cultural and environmental issues that cross the participation of various actors as promoters, technicians and users.

In this context, thinking sustainable housing lists a large group of heterogeneous matters and approaches involving:

- The occupation of the territory so the cities will continue to expand due to population growth;
- The management of public investment in social housing, including both the refurbishment and upgrading of existing units;
- The means of financing and costs of housing units, promoting affordable housing solutions;
- The promotion of equity and social inclusiveness, including the right to housing, as well as the appreciation of neighborhood conditions;



- The consideration of cultural phenomena related to traditional ways of living and housing typologies;
- The efficiency of the design and construction of housing units, promoting the proper management of the used resources, the assessment of embodied energy indicators and embodied carbon, the spatial adaptability and the management of the life cycle of buildings;
- Operational efficiency of housing, with emphasis on energy and water efficiency;
- Improvement of health, hygiene and safety in the use of housing, including indoor air quality (e.g. presence of volatile organic compounds and radon), quality of water supply, wastewater treatment, and the conditions of thermal, acoustic and visual comfort.

The variety and quality of papers presented and published allow a final and positive balance. Double-blind peer-review of papers was applied and the number of definitive rejections was relatively low, confirming the over-all high quality of submitted material.

This Conference also gave stage to early stage researchers and students willing to share the results of their research projects, namely post-graduation projects and doctoral projects. Sustainable Housing 2016 received a significant number of such proposals, the quality of which was confirmed during double-blind review.

The Editors and the Organising Committee would like to express their gratefulness to all the partners of this Conference who joined their efforts to make a significant event. Our special word of recognition to the Fundação Minerva and the University Lusíada Norte that welcomed the event, the Municipality of Porto and Domus Social for the technical support on the visits to social housing neighborhoods, to Porto Vivo by their technical support on the visit to the Historic Centre Housing interventions, to the Instituto da Habitação e Reabilitação Urbana (IHRU), the Portuguese Order of Architects (OA) and the Portuguese Order of Engineers (OE) for their institutional support.

The Editors and the Organising Committee also express their gratitude to all Members of the Scientific Committee who reviewed the papers and made relevant suggestions that improved the quality of individual work and the over-all quality of the event.

The Editors

Rogério Amoêda

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