

Stimulating homeowner energy-saving behaviour through local authorities' actions

Minyoung Kwon^{1*}, Dirk Hoet² and Erwin Mlecnik¹

1: Department of Management in the Built Environment
Faculty of Architecture and the Built Environment
Delft University of Technology
P.O. Box 5043, 2600 GA Delft, The Netherlands
e-mail: M.Kwon@tudelft.nl
e-mail: E.Mlecnik@tudelft.nl

2: Department of Electromechanical, Systems and Metal Engineering
Faculty of Engineering and Architecture
Ghent University
Wetenschapspark 1, B-8400 Oostende, Belgium
e-mail: Dirk.Hoet@UGent.be

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1. Introduction

In Europe, 50% of the dwellings are owner-occupied single-family houses (EUROSTAT, 2020). Single-family houses built before 1970s were poorly insulated, and many of them need an energy renovation. This presents particular challenges to local authorities (BPIE, 2020), such as rebuilding existing houses into highly energy-efficient buildings with healthy indoor climate, increasing the renovation rate to 3%, and promoting equal access to financial aid while ensuring affordability. At the same time, homeowners need to be stimulated to adopt low-carbon technologies with an appropriate set of actions and policy instruments. Local authorities can be a trusted mediating and quality-assuring advisor for homeowners, but they are also limited in their role, and in the way they can change homeowners' willingness to adopt low-carbon technologies.

Local authorities (LAs) have a role to facilitate independent energy consultancy and tailored advice in their territory. However, traditional approach is often organized centrally and with a top-down paternalistic approach: energy performance certificates, financial incentives,

subsidies, tax credits, etc. (Wilson et al., 2015). Involvement of third parties is often limited to public procurement, with little cooperation. In contrast, many studies emphasised the new role or varying degrees of engagement of local authorities in energy efficiency measures (Hannon and Bolton, 2015; Morrow, 2008). Shaw (2012) stated that a key feature of innovative local authority actions is to collaborate with other communities and to apply a partnership approach.

This paper introduces and evaluates innovative local policy instruments to spur the adoption of renovation measures by homeowners. The paper investigates how seven local authorities from UK, Belgium, France, and the Netherlands dealt with the development of both virtual (online web modules) and physical consultancy (pop-ups) in target areas. The evaluation results recommend how local authorities can develop a strategic approach for civic engagement.

2. Methodology

This study used a participatory approach to study local authority engagement towards creating awareness and easy access of low-carbon technologies for homeowners. Seven LAs from four countries have developed and run pop-up consultancy centres and modular web-portals by applying civic engagement, co-creation, and a strategic management plan. LAs, as a trusted advisor, interacted not only with homeowners actively but also with different stakeholders for co-creation. It is hypothesized that such LAs' pop-up consultancy and web portal actions will stimulate the adoption of home renovation measures. A homeowner renovation journey model is applied to help LAs understand homeowners' search for virtual and physical advice regarding home renovation measures. At the same time, LAs tested various advice strategies in temporary physical (pop-up) consultancy centres, strategically placed near target segments of homeowners, where LAs gave renovation advice and promoted low-carbon measures. In addition to following the process, viewpoints from stakeholders regarding the approach for the development of pop-up centres and modular web portals were collected through workshops and roadshows to evaluate the strategic approach.

3. Findings

The local authorities' engagement was analysed with qualitative data collected from reports from workshops, project meetings, interviews and roadshows. Based on the participatory case studies conducted by seven local authorities over two years, a homeowner renovation journey model was modified from an innovation-decision process model developed by Rogers (2010). Figure 1 shows the resulting homeowner renovation journey for determining LAs' actions in a structured way. Instead of a linear journey, "closing" the decision loop is important for emphasizing the need for civic engagement.

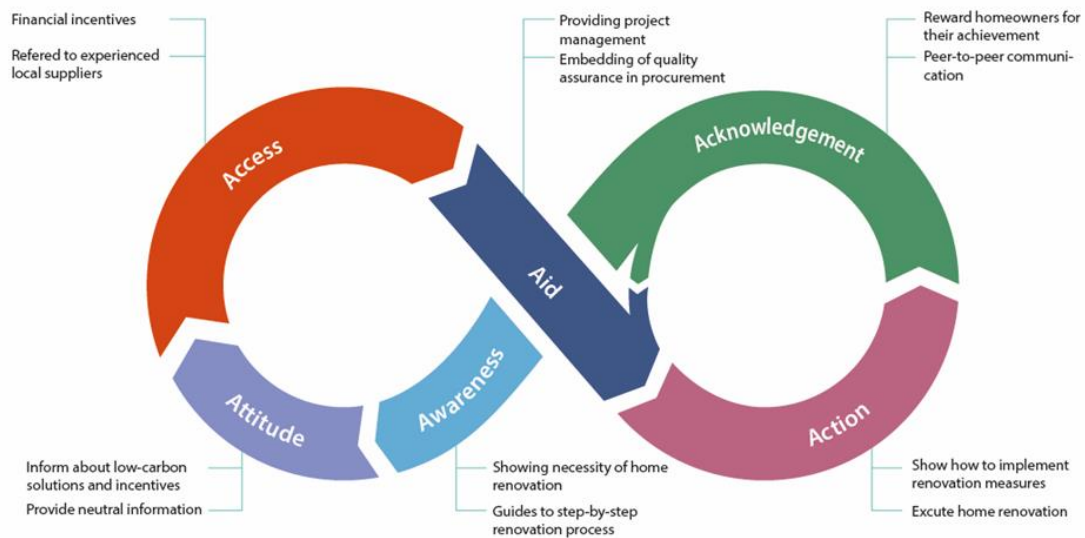


Figure 1 Homeowner renovation journey model for the inventory of supporting local authority actions

The model emphasises connected actions of LAs to support homeowners, such as providing energy coaching services, offering a platform for successful renovation stories (civic engagement), providing thermographic photos of roofs in a region, referring to local suppliers, showing renovation cases in target areas, strategically promoting pop-up consultancy centres, organising events/workshops, and so on.

The research finds that, in order to perform and provide interrelated services, there are four main factors to contextualise LAs' changing role and attitude change in promoting home renovation measures.

Engagement of local authorities

- Co-creation and collaboration: LAs need to collaborate with different levels of stakeholders. For example, the research identified collaboration and knowledge exchange with other local, regional and national authorities, homeowner associations, confederations of contractors/SMEs, local and policy actors, as well as knowledge institutions.
- Personalised services for energy saving measures: It is important to identify homeowner segments to approach homeowners more personal and with targeted information regarding their building typology and housing situation (e.g., thermographic roof photo of their home and continued relationship management after first contact)
- Communication and organization: LAs need to think beyond regulation and incentives, and promote low-carbon and home renovation measures through both

virtual and physical events, including citizen ambassadors or schools.

- Sustainability: LAs need to monitor and regularly evaluate their actions to keep them sustained.

4. Discussions and conclusions

Firstly, the participatory research showed that cooperation with citizen organisations, other local authorities and umbrella organisations during development allows better targeting of audiences. Secondly, collaboration with supply side and intermediaries increases engagement/involvement. Thirdly, combining virtual consultancy with physical consultancy increases the engagement of homeowners for home renovation, and personal contact increases the quality of engagement. Last, keep the homeowner renovation journey in mind, link with relevant stages of this journey.

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