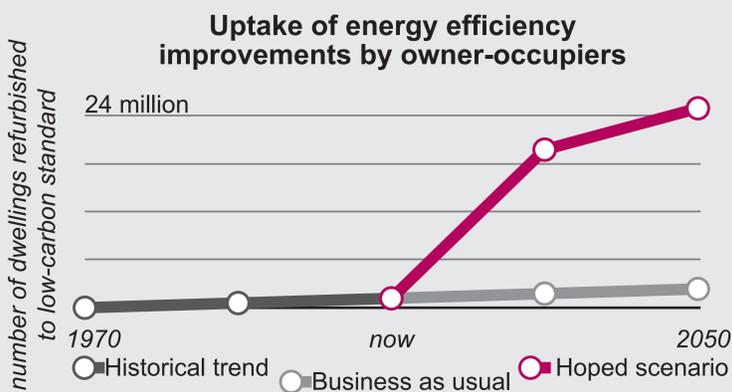


Understanding owner-occupiers' decisions to renovate in order to accelerate uptake of energy efficiency renovations

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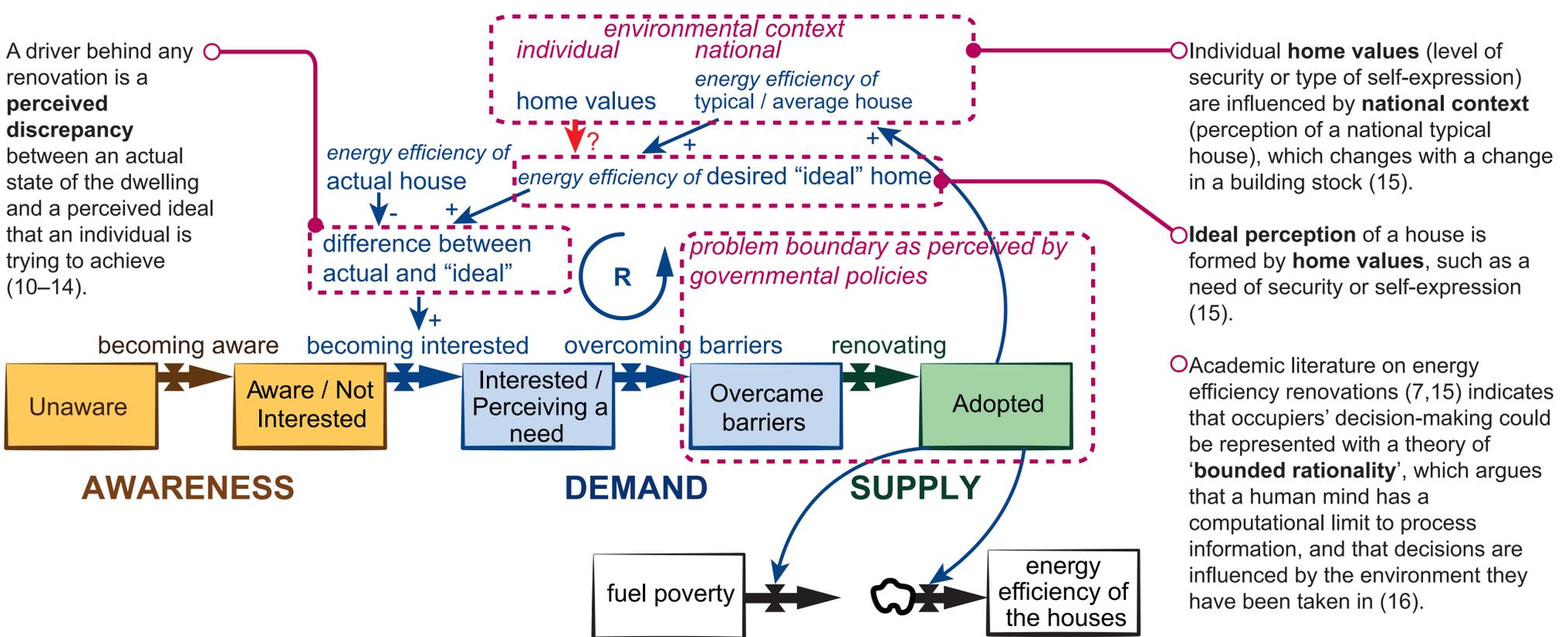
HEW project: My PhD dissertation is part of the bigger Housing Energy and Wellbeing (HEW) project aiming to understand the connections between energy efficiency and wellbeing in housing



A motivation behind my PhD is a need to reduce energy use in order to mitigate climate change and fuel poverty (1–3). I will look into how owner-occupiers' values influence their demand for **fabric efficiency improvements** and how those values could be influenced.

Current governmental incentive policies are based on **implicit assumptions** that occupiers' demand for renovations already exists and their behaviour to meet such demand is rational and based on financial interest. Those assumptions are not supported by academic literature (4–7).

System Dynamics is used to outline the full boundary of the problem. The physical structure of the renovations process is represented as an aging chain (8). Occupiers' decision rules will be derived from literature and interviews with a method influenced by *grounded theory* (9).



Proposed PhD publications

- How renovation decisions are made? Home values as an environmental context of such decisions
- Simulation of energy efficiency uptake among owner-occupiers aiming to understand how home values affect the uptake of such measures and how the uptake affects home values over time
- Evaluation of policy options concerning the uptake of energy efficiency improvements and their effect on domestic energy consumption and fuel poverty

Expectations / feedback from the conference:

- Are interviews the only/best way to determine decision rules of the agents?
- How to evaluate the influence of the home values (seen as environmental context) on decision-making regarding homes? Would the literature on motivations, on habits or on routines be (most) helpful for my study?
- An increase in fabric efficiency of the house does not necessarily result in a decrease in energy consumption, due to rebound effect (change in consumption patterns due to increased comfort expectations). Should a literature on behavioural change be used to analyse whether different home values could influence similar number of renovations, but result in different energy consumption patterns?

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