MONASH University | BehaviourWorks AUSTRALIA

Energy Upgrades in Australian Homes

# What influences the energy upgrade behaviours of homeowners?

**In Australia, we have a problem with our homes. 24% of electricity consumption and 11% of greenhouse emissions comes from residential buildings. And the poor quality of many buildings means they are too hot in summer and too cold in winter, which is both uncomfortable and potentially bad for our health. Upgrading the energy efficiency of existing Australian homes means less costs, more comfort and better health while also tackling the challenge of climate change.**

A systematic literature review was conducted to identify what influences the behaviours of homeowners when upgrading the energy efficiency of their homes. These behavioural insights will help to design appropriate policies and programs to improve the energy efficiency and liveability of our homes.

## Homeowners typically go through the following behavioural phases when upgrading the energy efficiency of their homes

**1. Considering and planning**
(e.g. seeking information about possible upgrades)

**2. Deciding or choosing**
(e.g. deciding to use an incentives program)

**3. Executing or installing**
(e.g. installing thermal insulation or a heat pump)

**4. Experiencing and maintaining**
(e.g. monitoring indoor temperatures)

## The energy upgrade behaviours of homeowners are influenced by a range of factors

**Micro**
Factors that are **internal to the invidividual**

**Meso**
Factors related to the **house or the group living in the house**

**Macro-proximal**
Factors that are part of the **immediate ecosystem** and networks of the homeowner

**Macro-distal**
Factors that are **more distant or indirect** to the homeowner

## Homeowner upgrade behaviours are often influenced by combinations of different factors at multiple levels

### Macro-distal factors

- **Industry and market trends:** Product fashions and trends, technology obsolescence, and (future) energy cost fluctuations
- **Mass media:** Coverage about energy efficiency upgrades
- **Culture:** Long standing practices and norms

### Macro-promixal factors

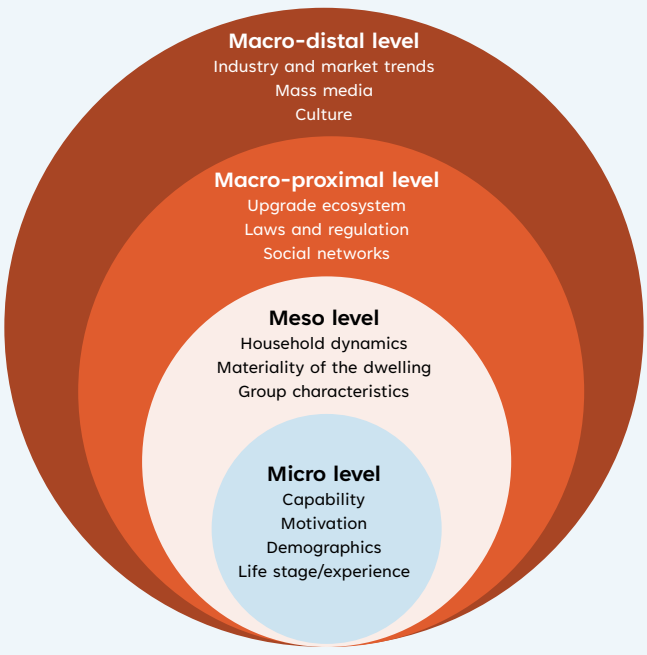
- **Upgrade ecosystem:** Availability of financial support, availability and price of products/services, interactions with service providers, reliability and accessibility of information
- **Laws and regulation:** Homeowner's associations, city/ neighbourhood norms and associations
- **Social networks:** Social norms, recommendations, examples/experiences of others

### Meso factors

- **Household dynamics:** Roles, relationships, gender differences, differences in opinion, domestic power balances, daily practices, family life ideals, household member needs
- **Materiality of the dwelling:** Potential to combine upgrades with required maintainence or renovation, construction type, dwelling type, ownership, feasibility of upgrades, current efficiency of house
- **Group characteristics:** Household income and finances, household size and composition, group changes

### Micro factors

- **Capability:** Knowledge, psychological and physical skills
- **Motivation:** Improving comfort, liveability, health or safety, perceived financial benefit or costs, personal taste/ aesthetics, environmental values, percieved time and effort, emotions, habits
- **Demographics:** Gender, age, educational level, health
- **Life stage/experience:** Key life stages or transitions, experience with previous upgrades




### The literature review also showed that:

**Perceived financial benefit, improved comfort and positive environmental benefits** are particularly important motivators for homeowners to upgrade homes.

The **specific characteristics of homes** and the **timing of upgrades** can also be important. For example, homeowners are more likely to include energy upgrades when conducting necessary home repairs or renovations.

**Upgrade service providers** (such as builders) play a key influencing role in energy upgrades.



For more information about this project and other research activities please go to the
**Energy Upgrades for Australian Homes website**