



BIODIM

Biodim is a biophilic smart window that allows you to view scenic images, cycle through several window tints and control your energy costs at the touch of a button

'Biodim' is a biophilic smart window that can electronically cycle through different levels of privacy on the external panel to give users more control over levels of light and reduce glare in the home. The internal glass panel is lined with OLED technology to be able to display scenic, wallpaper style images in order to help users connect with nature and improve their view from the window.

4 levels of privacy tints and block 1-98% light infiltration

Blackout to transparent in under 3 minutes

Incredibly low power usage (3-5 watts per m²)

Aluminum cladded framework for increased durability and aesthetic

Idle wallpaper feature to bring nature into the home

Motorised window hinges



4 Levels of Tint:

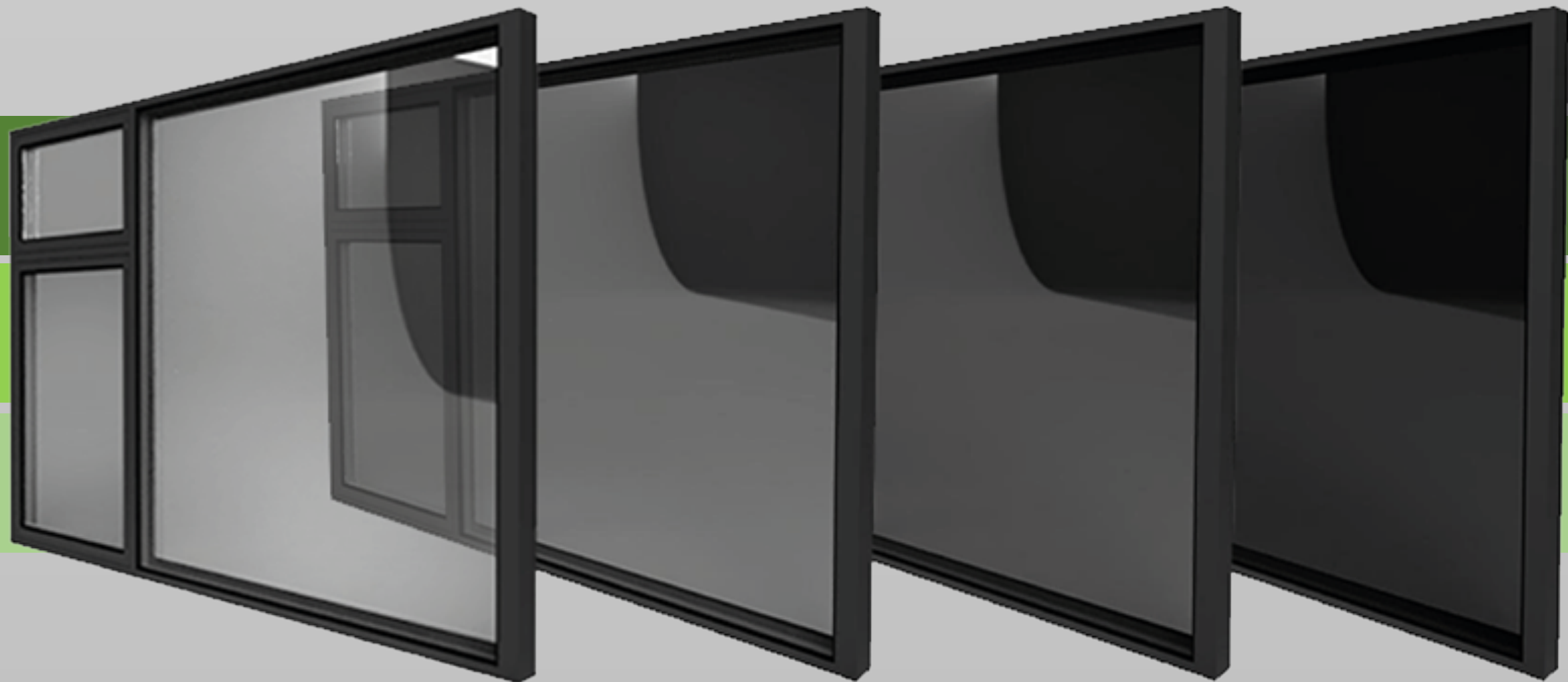
Electrochromic windows currently offer 4 levels of privacy which can be controlled through either a switch or an app. This allows users of all abilities to comfortably control their windows through a form of control that they prefer.

DIVERSION:

- Individuals with mental health conditions such as Dementia and Alzheimer's will benefit from the stimulation of light variations and displaying natural images
- Physically disabled individuals such as wheelchair users can make use of the app to provide a control that is convenient and accessible to the user.

INCLUSION:

- Biodim's ease of use and features are inclusive of all age-ranges in order to harness age-friendly design



Clear

Light

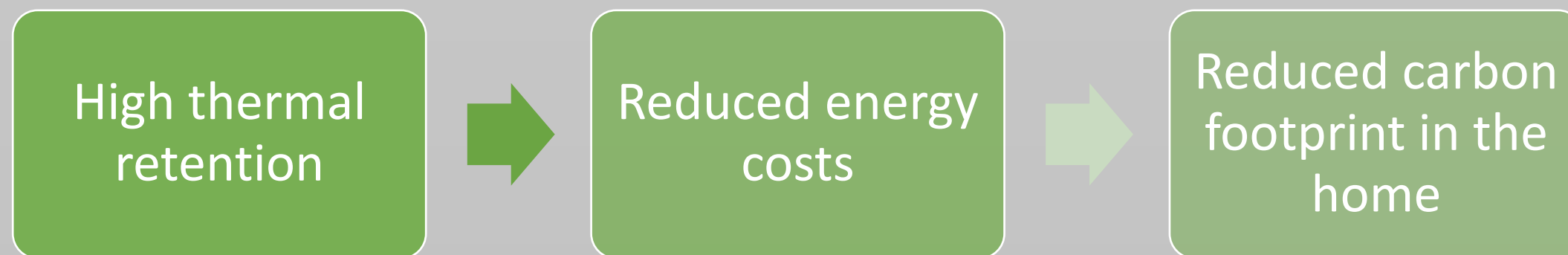
Medium

Blackout

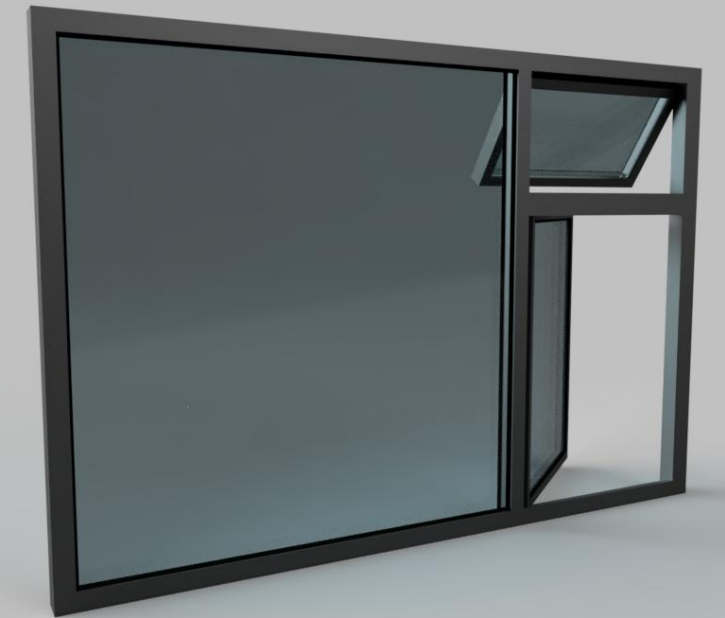


Timber frames cladded with grey anodized aluminum can both be recycled meaning the environmental sustainability is far greater than uPVC windows.

This material can last up to 30 years longer and be 25-35% cheaper over a 60-year period



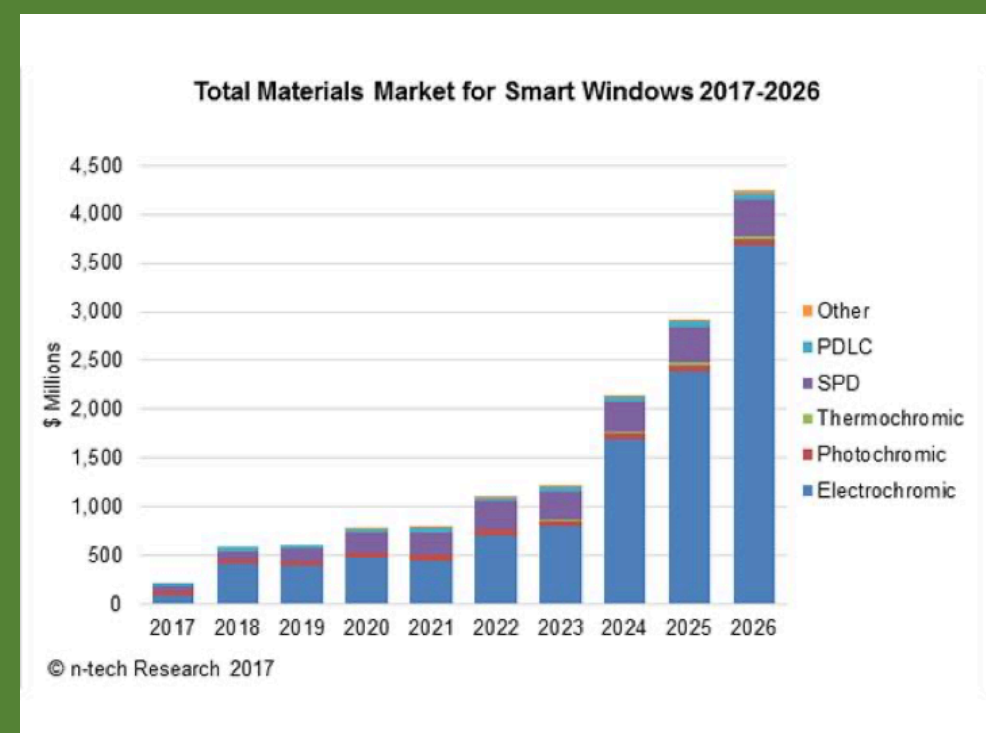
A survey has shown over 60% of people feel that the inclusion of biophilic design in the home would improve their mental well-being and productivity levels



'Green Homes' Grant currently provides financial support for people looking to improve the energy efficiency within the home. 'Biodim' could be implemented into the package as a means of dramatically reducing electrical lighting costs and thermal retention into new and existing homes.

Long term gentrification may provide a slow but steady introduction of 'Biodim' into new and existing homes as the price of the technology decreases with increased demand.

As the cost of the electrochromic and OLED technology decreases, the viability and government support would improve in correspondence to predicted increase of market share figures



Written Summary:

- **Problem:** Current homes lack a connection with nature, especially with most windows overlooking unnatural brick homes or concrete infrastructure. With mental health awareness increasing, there's a clear need for biophilic design to be better integrated into the design and structure of the homes to improve an individual's mental health.
- **Process:** Through researching online data and articles it's evident that current electrochromic technology has dominated the smart glass market in commercial applications. Through conducting a survey, 9/10 people would prefer smart glass to be included in their homes to help reduce energy costs and improve light/temperature control. Combining electrochromic windows with biophilic design features can improve the users sense of control and connection to nature. This in turn can improve upon social and environmental sustainability.
- **Proposal:** Biophilic smart windows ('BIODIM') incorporates the use of transparent OLED technology within the construction of electrochromic windows. This allows homeowners to use the dimmable features whilst displaying scenic images on the inside pane. This can develop the user's connection with nature, avoid unnatural views and improve their mental well-being