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Green Real Estate Nudges: A Note on Behavioral Approaches to Promoting Sustainability in the Real Estate Sector

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Abstract

This short paper examines how green nudges can be utilized to promote sustainable behavior in the real estate sector. Based on central nudge approaches, concrete fields of application along the stages of development, usage, and marketing of real estate are identified. The objective is to provide impulses for practice-oriented measures as well as to highlight the need for further empirical research.

Keywords: green nudges, nudging, real estate sector, sustainable behavior, behavioral economics

1 Introduction

In behavioral economics, nudging represents a strategy for initiating desirable behavior. The theory of nudging was introduced by Thaler and Sunstein (2008). Green nudges refer to interventions designed to stimulate environmentally friendly behavior through subtle modifications of the decision-making context.

For instance, a field experiment conducted with the South German energy provider Energiedienst GmbH demonstrated that so-called default options, i.e. standardized pre-set choices, can significantly influence electricity tariff decisions. When a green electricity tariff was set as the default option, 94% of users remained with this tariff, while the remainder switched to one of the two alternative tariffs offered (Pichert & Katsikopoulos, 1999).

Another practical example of how nudges can support environmentally friendly behavior involves the use of social norms. The U.S. energy provider Opower sent energy consumption reports to its electricity and natural gas customers, showing how a household's energy use compared with that of similar households. As a result, households significantly reduced their energy consumption compared to a control group that did not receive such reports including social comparison (Allcott, 2011; Allcott & Mullainathan, 2010).

Can nudging also be directed toward fostering an environmentally sustainable real estate sector? This paper seeks to provide a foundation for this discussion. It presents a selection of green nudges and illustrates potential applications within the real estate industry, here conceptualized as Green Real Estate Nudges.

2 Potential of Green Real Estate Nudges

The following section compiles relevant green nudges and examines their application potential within the real estate and construction industries (summarized in Table 1: Overview of green nudges with application to the real estate sector).

Among the most prominent green nudges are default options. Individuals tend to adhere to pre-set standard options and refrain from actively switching to alternatives. In real estate project development, environmentally beneficial impulses could be generated by setting sustainable building materials (e.g. recycled concrete, recycled plastics, timber) as default options in architectural and construction planning software. Energy providers could offer green electricity tariffs as the default option. Property management companies might establish default heating schedules that residents would need to actively modify. Furthermore, online real estate platforms could pre-select the highest energy efficiency class (A/A+) in search filters, so that these properties are displayed firstly unless the filter is actively changed.

Individuals follow the crowd. This phenomenon, often referred to as herd behavior, is closely related to social norms and is operationalized by informing individuals about the behavior of the majority or the average. For example, residents could receive information via utility bills or apps comparing their water or energy consumption to that of similar households. In marketing contexts, real estate agents or platforms could emphasize that the majority of clients chose properties with the highest energy efficiency class in the previous year (if this is evident from their surveys).

Salience refers to the highlighting of specific attributes in order to increase their visibility, for instance through labels, quality seals, pictograms, or smiley systems. On construction sites, recycling containers could be clearly marked, or

recycling facilities within buildings could be made visually prominent, for example by marking pathways with footprints (Team 2020).[1]

Buildings certified for instance by DGNB or BREEAM receive plaques or certificates that can be installed on the building to make the sustainability standard visible to (potential) residents and the general public. Also, green house number plaques (Landesenergieagentur Sachsen-Anhalt GmbH 2025) may also stimulate rental or purchase decisions.

Feedback mechanisms can likewise foster environmentally friendly behavior. On construction sites, displays installed on generators could show real-time energy consumption. Similar real-time measurement devices could be installed on showers, bathtubs, and faucets in buildings to inform residents about their water usage. Feedback could also be provided via mobile applications. Immediate feedback enables users to adjust their behavior promptly.[2]

Green real estate nudging may also be implemented through commitment strategies. The literature demonstrates positive effects when individuals commit early to performing environmentally friendly actions, initially involving only small behavioral adjustments (Baca-Motes et al., 2012; Bryce et al., 1997). Residents could commit, at the latest upon signing the lease, to water- and energy-efficient consumption and sustainable waste management practices. As a symbolic gesture of engagement, residents might receive certificates or badges. Prospective residents could also commit to concluding a green lease[3].

Additionally, the prospect of small rewards can serve as an incentive for green behavior. Property management companies might, for example, establish raised garden beds if residents demonstrate sustainable practices such as maintaining community gardens or using clotheslines instead of tumble dryers.

However, it should be considered that losses typically weigh more heavily than equivalent gains. Individuals are generally more motivated to avoid losses than to achieve gains of equal magnitude. This phenomenon, known as loss aversion, originates from Prospect Theory (Kahneman & Tversky, 1979). According to an interesting field experiment[4], posters in buildings may be put up stating: “Do not waste your money - save water and electricity!” In marketing contexts, agents could emphasize that depreciation is higher when investing in non-green properties compared to properties with sustainable features.

Gamification can make sustainable behavior more engaging. Sustainability competitions can be organized (Ro et al. 2017). Playful product designs, such as recycling game machines (as observed on the campus of Tongji University in China) or basketball hoops mounted above waste bins (on the campus of HEC Paris in France) can also promote recycling behavior (Team 2020). Moreover, gamified sustainability apps[5] allow participants to earn points through environmentally friendly actions, which can be redeemed for coupons for green products or services (Beattie 2024). In the context of green real estate sector, gamification could involve introducing point systems on construction sites,

[1] Certainly, convenience adjustments, i.e. ensuring that the environmentally friendly option is as simple and accessible as possible, are likewise of importance. Waste disposal bins, for instance, should be placed in locations that are convenient for users.
[2] Moreover, reminders (via app) and checklists (provided by property management) may serve as supportive instruments to reinforce green behavioral practices.
[3] Green lease agreements incorporate sustainability clauses that apply to both residents and landlords.
[4] This was conducted by the Hasso Plattner Institute, the University of St. Gallen, and LEG Wohnen (LEG Immobilien SE, 2025). Posters bearing the slogan “Don’t burn your money!” (original: „Verheiz dein Geld nicht!“) were displayed in building entrance areas. The intervention resulted in a 5% reduction in energy consumption.
[5] To date, such apps have been implemented primarily in the Asian region.

where workers collect points for environmentally friendly practices (e.g. switching off machines when not in use). Winners might receive certificates or an additional hour of paid break time. Similarly, challenges between households or comparable buildings could be initiated, accompanied by monthly rankings. Moreover, property managers or energy providers could cooperate with gamified sustainability app providers to jointly promote green behavior.

Combinations of green nudges may also be effective. Social norms and salience can be combined through visually striking graphics or traffic-light smiley systems (red = worse than average, yellow = equal to average, green = better than average) indicating comparative water or energy consumption. Gamification and loss aversion could be integrated[6] by informing participants in a challenge that they must reduce water or energy consumption by a specified percentage in order to receive rewards (e.g. tree plantings, prize money).

Overall, considerable scope remains for creative green nudging strategies within the real estate sector. The examples provided here are intended as preliminary impulses for further development.

3 Concluding Remarks

Green nudging constitutes an instrument for promoting environmentally friendly behavior among individuals. This paper has presented an overview of prominent green nudges and illustrated exemplary applications within the real estate sector, from which potential practical measures may be derived. Future field experiments should empirically assess the effectiveness of the proposed Green Real Estate Nudges. Accordingly, substantial need for further research remains.

[6] In a field experiment, Ghesla et al. (2020) implemented two treatments: One group of participants was informed that trees would be planted if they reduced their energy consumption by 5% (gain-framed incentive), whereas the other group was told that no trees would be planted if they failed to reduce consumption by 5% (loss-framed incentive). The results indicated that the gain-framed group reduced energy consumption by an average of only 2%, while the loss-framed group achieved a full 5% reduction.

Tabelle 1: Overview of green nudges with application to the real estate sector

Green Nudge	Definition	Potential Application as a Green Real Estate Nudge
Default Option	Standardized green pre-set option that can be modified	*Development:* Planning software specifies sustainable materials as default options *Usage:* Green electricity tariffs and heating schedules are set as defaults that users must actively change *Marketing:* Highest energy efficiency classes are pre-selected on real estate platforms so that they are displayed initially without filter adjustments
Social Norms	Establishing and communicating a social reference point	*Usage:* Information on bills or in apps displaying the average water and energy consumption of comparable households *Marketing:* Emphasizing that the majority of customers prefer green, energy-efficient properties
Salience	Making green attributes more prominent and noticeable	*Development and Usage:* Visual cues such as clear labels, pictograms, and smiley systems on recycling construction containers and waste disposal facilities *Marketing:* Prominent display of sustainability certifications
Feedback	Providing (real-time) feedback	*Development:* Feedback displays on generators indicating energy consumption *Usage:* Measurement devices on water taps showing real-time water consumption
(Pre-)Commitment	(Pre-)Commitment to a sustainable action	*Usage:* Residents commit at an early stage to water- and energy-efficient consumption and sustainable waste management, i.e. recycling practices
Rewards	Small incentives for green behavior	*Usage:* Providing rewards if residents demonstrate sustainable practices
Loss Aversion	Losses weigh more heavily than equivalent gains	*Usage:* Posters addressing potential financial losses from excessive resource use *Marketing:* Emphasizing that depreciation is lower for green properties than for non-green properties
Gamification	Achieving sustainable behavior through playful mechanisms	*Development:* Sustainability competitions on construction sites *Usage:* Competitions between households or comparable buildings; cooperation between property management/energy providers and gamified sustainability apps

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