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The Urban Land Institute is a global, member-driven organization comprising more than 48,000 real estate and urban development professionals dedicated to advancing the Institute's mission of shaping the future of the built environment for transformative impact in communities worldwide.

ULI's interdisciplinary membership represents all aspects of the industry, including developers, property owners, investors, architects, urban planners, public officials, real estate brokers, appraisers, attorneys, engineers, financiers, and academics. Established in 1936, the Institute has a presence in the Americas, Europe, and Asia Pacific regions, with members in 84 countries. More information is available at uli.org.

ABOUT THE ULI RANDALL LEWIS CENTER

The ULI Randall Lewis Center for Sustainability in Real Estate envisions a net zero, resilient, healthy, and inclusive world where every person, community, and business thrives. To achieve our vision, the Center accelerates action for sustainability in real estate and cities by cultivating leadership and knowledge, catalyzing adoption of sustainability practices across the real estate value chain, helping solve land use and real estate challenges, and advancing policy solutions. The Center pursues these goals through its four main programs—Decarbonization, Urban Resilience, Healthy Places, and Greenprint—working closely with ULI members and partners to produce publications on cutting-edge issues, host global convenings, provide community technical assistance, and organize leadership networks.

Discover transformative practices for real estate and land use at <u>uli.org/sustainability</u>. Connect with the Center at <u>sustainability@uli.org</u>.

ABOUT THIS REPORT

Behavior Change to Achieve Net Zero is the fourth installment of the Working toward Net Zero: Tenant Engagement primer series. The prior three publications focused on green leases, data sharing, and tenant fit-outs. This primer highlights behavior-change tactics and shares strategies of how owners can encourage tenants to support the net zero transition. It also highlights real-world project profiles that exemplify behavior-change strategies in action.

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INTRODUCTION

The choices that people make in their day-to-day lives—including decisions to turn off lights, purchase energy-efficient appliances, recycle, and more—help drive climate change outcomes. Accordingly, efforts to encourage individuals to adopt energy-conservation behaviors are an essential component of broader strategies to reduce carbon emissions. The 2022 Intergovernmental Panel on Climate Change (IPCC) called out the need for demand-side shifts—culture, lifestyle, and behavior—as essential components of efforts to reduce climate emissions.

"It's important to incorporate behavior change at the corporate level. We do this with corporate tenants. We say, 'Our building is doing this thing with green action, do you want to join in?' And a lot of them do."

- Yukihiko Ito, CEO, GOYOH

The notion of "behavior change" refers to modifying the actions, habits, attitudes, and norms of individuals, or groups of individuals, in pursuit of environmental goals. Strategies such as providing financial incentives for recycling, offering reminders to turn lights off when leaving buildings, or shifting group norms toward energy efficiency are examples of efforts to shift the behavior of individuals in ways that reduce environmental impacts.

This report explores strategies for aligning individual- and tenant-level action and choices with building- or portfolio-level sustainability goals. It is aimed at helping building owners and operators understand opportunities to shape the energy-consumption behaviors of not just individuals but also building users at the tenant or organization-wide scale.

This report is part of a series published by ULI that describes opportunities for owners and tenants to collaborate on the journey to net zero. Previous primers in the <u>Working toward Net Zero: Tenant Engagement Best Practices and Examples</u> series cover

- <u>Taking Green Leases to Net Zero</u>: Green or net zero leases incorporate sustainability language and/or energy efficiency measures directly into initial leasing documents or lease renewals for tenants.
- Sharing Data to Achieve Net Zero: Property owners and tenants face increased pressure, and often requirements, to report whole-building performance and emissions data to governments, investors, and company leadership. Sharing data among parties allows both owners and tenants to benchmark progress and strategize for future wholebuilding emission reductions.

• Fitting Out Spaces for Net Zero: Commercial building interiors can be fitted out every three to 10 years as new tenants enter the space. During these renovations, improvement opportunities that cut energy use, repurpose materials, or reduce embodied carbon are key components to a building's life cycle.

For commercial buildings such as offices or multifamily buildings, successful behavior change requires effective collaboration between tenants and building owners and operators. With tenants increasingly seeking buildings that deliver efficient and healthy spaces and prioritizing sustainability as a key factor in their leasing decisions, and building owners and operators seeking buy-in for environmental goals and priorities, these strategies can be mutually beneficial.

Leveraging a shared vision of sustainability can help spur shared action between owners and tenants that results in greener and healthier buildings. As real estate companies move toward a net zero future, encouraging individuals and tenants to adopt energy-and waste-conserving behaviors is a critical strategy.

FURTHER READING

- Bridging the Occupier-Landlord Gap for the Future of Workspace (Urban Land Institute, 2023)
- Harnessing Behavior Change for Urban Climate Action (World Wildlife Fund, 2022)
- "The Role of Behaviour in Retrofitting for Sustainability" (Cundall, undated)
- Behavioral Change and Building Performance: Strategies for Significant, Persistent, and Measurable Institutional Change (Pacific Northwest National Laboratory, 2014)

WHY BEHAVIOR CHANGE FOR NET ZERO?

In commercial buildings, individual or multitenant spaces can account for up to 80 percent of total building energy use. Owner-occupied buildings are rare, making tenants—companies and individuals—key stakeholders in efforts to reduce carbon emissions.

A "one-size-fits-all" approach for encouraging behavior change for energy efficiency and emissions reductions does not exist. Whether in commercial, residential, mixed-used, or multitenant buildings, differences in organization, assets, and geography require that dynamic and tailored techniques be used. The project profiles throughout this primer illustrate the different approaches.

Despite its complexity, behavior change has been identified by the International Energy Agency (IEA) as an important strategy for reaching net zero, one that can be coupled with the adoption of new technology. For example, building owners could install electric vehicle (EV) charging devices in their garages and offer incentives, such as a discounted parking rate for EVs.

Behavior change occurs at different levels—from minor adjustments in everyday life, such as using large appliances during off-peak hours to reduce costs and unplugging appliances and devices when not in use, to company policies that prioritize the use of energy- and resource-saving appliances. Together, the collective impact of behavior-change strategies on energy consumption and environmental performance in buildings can be significant. According to the IEA, changes to space heating behaviors alone <a href="mailto:may.reduce_may.red

RELATIONSHIPS ARE ESSENTIAL

For behavior-change strategies to be successful, a positive rapport between owners and tenants is essential. A shared vision for decarbonization can help stakeholders work together to achieve net zero goals. The table below illustrates opportunities for building owners to work with tenants to advance net zero behavior-change goals.

Relationship-Building Methods	Potential Benefits
Physical or electronic communications	Raise awareness of behavior- change strategies and opportunities
Regular check-in meetings with tenants and/or third-party representatives (brokers, property managers, etc.)	Facilitate open dialogue on both tenants' and owners' perspectives
Tenant satisfaction surveys and/ or anonymous suggestions boxes (physical or virtual)	Understand tenants' needs and perspectives



BEHAVIOR-CHANGE STRATEGIES

Behavior change requires collaboration, creativity, and the use of data and shared incentives to be effective. For example, a building owner could install smart meters and share energy-use data with tenants, allowing tenants to see how their energy consumption varies over time and encouraging sustainable behavior change. Likewise, depending on lease structures, owners could bill tenants directly for their energy use, incentivizing tenants to lower their energy bills.

Owners may also use green lease language that requires tenants to share their energy-use data. The data could be shared through the utility directly, or via smart metering, direct data share, or another method. This requirement allows building owners access to the coveted "whole-building data" and opens the door to benchmarking energy use, complying with certain building performance regulations, and identifying buildingwide behavior-change opportunities.

The following sections detail a summary of behavior-change strategies and associated project profiles that exemplify these strategies in action.

FINANCIAL AND LEGAL INCENTIVES

Incentives—both financial and nonfinancial—can effectively encourage sustainable behavior change among tenants. Financial incentives such as rent discounts or utility bill reductions reward sustainable behavior monetarily. Nonfinancial incentives, such as recognition programs or exclusive access to community events, can also motivate tenants.

Together, incentives can create a supportive environment and encourage behaviors that reduce energy use, waste, and building carbon emissions. When tenants are offered either financial or nonfinancial incentives, they are more likely to adopt long-term, environmentally conscious habits.

When it comes to legal incentives, a few key regulations are prime examples of aligning tenant and owner responsibilities. New York's Local Law 97 permits owners to pass a portion of noncompliance costs to tenants through rent increases. In France, the Décret Tertiaire (the Tertiary Decree), which was passed in July 2019, requires both owners and tenants to report energy performance, with the division of responsibility spelled out in the lease agreement.



PIMCO PRIME REAL ESTATE

PIMCO Prime Real Estate*, a leading investor in global real estate, has implemented an innovative landlord-tenant engagement strategy that exceeds European regulatory requirements to foster collaboration and drive decarbonization.

The company uses "Green Committees" to bring together tenants, property managers, and external advisers. These committees focus on building stronger relationships, improving communication, and promoting transparency among all stakeholders as they work toward net zero goals. This approach is in line with France's Décret Tertiaire rule that requires owners and tenants to be jointly responsible for achieving energy goals.

After initiating the program in 2018, the firm rolled out Green Committees across Europe, including Germany, where the program was piloted at select properties. This approach has enabled more informed decision-making for potential capital investments that could lead to additional operational cost savings and energy efficiency improvements. Given the program's positive outcomes so far, PIMCO Prime plans to continue to expand it across its European portfolio.

* PIMCO Prime Real Estate GmbH is an affiliate and wholly owned subsidiary of PIMCO and PIMCO Europe GmbH that includes PIMCO Prime Real Estate GmbH, PIMCO Prime Real Estate LLC, and their subsidiaries and affiliates (together PIMCO Prime Real Estate). PIMCO Prime Real Estate GmbH operates separately from PIMCO.



RECOGNITION

Recognition is another powerful strategy for motivating behavior change. Recognition programs can increase tenant loyalty, retention, and referrals. Recognition programs can help tenants

see the impact of their sustainable choices, feel appreciated for their contribution to the reduced energy use intensity (EUI) of a building and, for corporate tenants, build reputation value.

PROJECT PROFILE

SWIRE PROPERTIES

Swire Properties is a real estate company that develops and manages commercial, retail, hotel, and residential properties across Hong Kong SAR, China, and the Chinese mainland, with a particular focus on mixed-use developments. Swire Properties also holds investments in the United States, Indonesia, Vietnam, and Thailand. In 2016, the company established its sustainable development vision to "become the leading sustainable development performer in their industry globally by 2030." The Sustainable Development 2030 Strategy ensures that environmental considerations are integrated into operations and business decisions.

A flagship initiative under this strategy is the Green Performance Pledge (GPP), a tenant engagement program designed to promote owner-tenant collaboration toward shared net zero goals. Launched as a pilot in 2021 with 14 office tenants in Hong Kong SAR, China, the GPP has since expanded significantly. As of June 2024, over 110 tenant companies occupying more than 4.2 million square feet have signed up, representing 50 percent of Swire's occupied office lettable floor area in Hong Kong SAR, China, and the Chinese mainland.

The GPP aims to enhance tenants' sustainability performance across the entire tenancy life cycle, with a focus on reducing energy, water, and waste. The program features shared data for energy and water meters, performance benchmarking, action planning, smart waste monitoring, and annual recognition for exemplary environmental performance. The recognition program encourages environmental performance among tenants. For new tenants, the program offers fitout technical guidelines and a validation process to recognize the best sustainable office designs.

In 2024, results from participating tenants in Hong Kong SAR, China, include a 3.8 percent year-on-year reduction in electricity use intensity, saving nearly 750,000 kWh, and a 10 percent improvement in the waste diversion rate. In addition, 42 percent of tenants installed smart energy meters and 45 percent now digitally record and monitor waste generation and recycling. An education program, the GPP Academy, offers workshops and training to bridge knowledge gaps and further support tenants' sustainability efforts.





Participants at the 2024 Green Performance Pledge Forum. (SWIRE)

GAMIFICATION

Gamification is the process of using game-like and competitive elements to drive behavior change. Evidence shows that gamification can increase engagement of tenants toward sustainable behaviors. As some people tend to place higher value on short-term rewards than long-term benefits, gamification offers an immediate reward by offering playful challenges with prizes.

Gamification differs from recognition because where recognition offers an incentive for individual accomplishments, gamification involves a participant-centric approach with leaderboards, point systems, and a sense of collective action. By seeing other tenants acting sustainably, behavior changes become normalized.



One of the many CommonWealth Partners' buildings that participated in the Green Office Challenge. (Courtesy of Commonwealth Partners)



COMMONWEALTH PARTNERS (SUPPORTED BY VERDANI)

CommonWealth Partners (CWP) is a real estate investment, development, management, and operating company specializing in office properties across America. As part of its sustainability program, which is supported by the ESG advisory firm Verdani Partners, CWP created the Green Office Challenge. This challenge is an initiative designed to promote ESG engagement among tenants within the portfolio.

In late 2023, tenants across CWP properties participated in a gamified survey for the challenge, which enabled tenants to showcase their sustainable practices. Rewards were offered for ESG strategies and success in areas such as energy savings, waste reduction, and wellness initiatives.

The Green Office Challenge was designed to foster healthy competition and collaboration between tenants and property management teams. In 2023, 11 tenants participated, and the top three performers were rewarded with official certificates and public recognition in CWP's 2023 annual ESG report.



Winners of the Green Office Challenge. (Courtesy of Commonwealth Partners)

GREEN NUDGES AND FRAMING

"Green nudges" encourage tenants and owners to act in an environmentally friendly way. Nudges use gentle, unobtrusive prompts to encourage changes in behavior that result in energy reductions. Green nudges can redefine the default choice to be a green one, appeal to the self-image of tenants, or align with other social norms.

Examples of nudges include sharing emissions data for a certain technology, ecolabeling, or placing sustainable options in optimal areas. It is important that nudges are implemented in a transparent and upfront way that allows tenants to opt in or out. In combination with other strategies, nudges can support the transition to net zero.

The <u>framing effect</u> is the concept that human behavior is influenced by the way information is presented. Equivalent information may be framed in a positive or negative light, resulting in different perceptions and behavioral outcomes. Framing sustainable behavior choices negatively would involve highlighting the consequences of climate change if a non-green choice is made. On the other hand, framing sustainable choices positively would focus on the benefits to the environment if a green choice is made.

"We want student residents to feel proud of where they live. We encourage a greener mindset of reducing, reusing, and recycling."

- Hannah Brown, Hines

PROJECT PROFILE

HINES

Hines's award-winning student living platform, aparto, is providing high-quality accommodation options across major European cities. As part of Hines's comprehensive ESG strategy, which focuses on community creation, engagement, and student well-being, aparto developed a monthly experience program that operated from September 2023 to June 2024

The program offered multiple events centered on five pillars: close communities, well-being, self-discovery, cultural experiences, and skills boost. These initiatives nudged students to adopt greener lifestyles through community events such as gardening, food reuse, and

beekeeping, as well as event series like the "Feel Good Fashion" event, which promoted upcycled clothing and supported charitable causes.

Residents also benefited from projects ranging from fitness classes to university orientation days, activities that foster connections and add value for residents and local communities. In addition, buildings featured LED lighting and recycling bins to support sustainable living. The company's commitment to understanding the evolving needs of gen Z was reflected in regular quality surveys, which helped ensure that services remained responsive and tailored to feedback.

GOYOH

GOYOH is a Japanese startup providing ESG software solutions for real estate investors. GOYOH partnered with the Jyukankyo Research Institute and the Kenedix Group, a real estate company, to implement green nudges at the KDX Toyosu Grand Square, which is home to about 20 corporate office tenants.

The ESG initiative "Behavior Change Program for Decarbonization in Office Space" was a program initiated by Japan's Ministry of Environment to reduce greenhouse gas emissions by promoting and measuring behavior changes of office building tenants. The first research program in Japan to use nudges, the two-month project tested the effects of different framing strategies on tenant behavior.

A software program called EaSyGo used positive framing for one group of tenants, who were informed of the benefits of sustainable choices and tenant collaboration. The other group received negative framing and were informed of the consequences of unsustainable and individualistic choices on the climate.

The negative framing effect was found to be more effective in making tenants amenable to green choices. This effort was supplemented by other behavior-change strategies such as gamification and incentives. In the future, GOYOH plans to partner with Jyukankyo to design nudges for digitalized green programs in other buildings.

"What we focus on is climate change. Helping residents understand its severity can help create effective behavior change."

Migiwa Yamamoto, Chief
Sustainability Officer, GOYOH



An ESG report is part of the green nudge program for the KDX Toyosu Grand Square project. (GOYOH)

GREEN DEFAULTS

"Green defaults" are strategies that make the green choice the easiest choice. These strategies leverage the fact that people often take the course of least resistance, especially regarding environmental management, and they may stick with the default option rather than opting in to a strategy that requires new or less-familiar actions. When the default resource management option is a more sustainable one, many tenants will choose to remain opted in.

For maximum effectiveness, it can be helpful to not label the default action as "green," which could alienate users. An example is occupancy sensors that use motion detectors to turn the lights on when people are in a room. Often the default tenant fit-out option, occupancy sensors help conserve energy.

PROJECT PROFILE

KEREBY

Kereby, a Blackstone portfolio company, is a Copenhagen-based real estate firm that focuses on providing attractive, modern rental housing. Kereby's sustainability approach includes green nudges that help tenants reduce energy consumption. Kereby has made Andel Energy—an energy provider that has comprehensive strategies to reduce energy consumption—the default electricity supplier for its buildings. In Denmark, tenants have the right to choose their own electricity supplier, therefore, they can opt out if they so choose.

The Andel/Kereby partnership uses information sharing and transparency to nudge people toward energy conserving behaviors. For instance, the Andel app informs tenants about on-peak electricity costs, encouraging tenants to avoid peak moments of electricity use and to be more mindful about their energy use.

Kereby also runs an information campaign (see Tenant Education) that sends tips and information on how to reduce energy consumption directly to tenant mailboxes. Going forward, Kereby is exploring alternative ways to reach and inform the tenants about ways to optimize and reduce energy consumption. Additionally, every season, Kereby hosts a mini campaign on a sustainability topic, such as reducing electricity or heating use. To understand the impacts on tenants, Kereby plans to include questions about the sustainability program in its annual tenant satisfaction survey.

TENANT EDUCATION

Owners can educate tenants about green strategies, renewable technologies, and other sustainable approaches to shift tenant behavior. Armed with information, tenants can be empowered to contribute to whole-building decarbonization and create lasting change.

Education methods can range from awareness events to tenant platforms and management apps to simple sustainability signage. In addition, providing access to shared amenities or services—such as bike racks, electric vehicle charging stations, or composting facilities—can both facilitate and bring awareness to sustainable behavior.

PROJECT PROFILE

AVANATH

Avanath is an investment firm that acquires, owns, and operates affordable apartment communities across the United States. The company's decarbonization strategy aims to reduce CO_2 emissions by 50 percent by 2030 and achieve net zero by 2050.

Avanath's strategy is supported by its <u>+Amplify</u> program, which engages tenants in ESG efforts. The company states that this program is aimed at benefiting residents, employees, investors, and the environment.

Avanath provides tenants with educational material to suggest easy ways to change daily behaviors. The program also teaches tenants how to use resources and tools provided by the company, including programmable thermostats

Additionally, Avanath encourages its on-site property managers to replace or upgrade units with Energy Star certified appliances and low flow fixtures. Avanath also offers recycling to tenants in its buildings nationwide.



An Avanath building that uses the Amplify+ program. (Avanath)

LBA LOGISTICS

LBA Logistics is a real estate and investment management company with a diverse portfolio of industrial and office properties across the United States. LBA aims to promote positive behavior changes among tenants through education on new technologies in the building. By integrating tenant education with sustainable design, LBA Logistics is not only reducing its environmental impact, but also empowering tenants to make informed decisions that align with the company's broader ESG goals.

A key component is LBA's LED lighting program, which includes a comprehensive inventory of LED lighting across its portfolio along with a marketing campaign to educate tenants about the benefits of LED technology. The campaign aims to encourage adoption, and LBA

also offers to connect tenants with its preferred vendor for a complimentary LED lighting retrofit consultation.

In addition, LBA has organized a solar education webinar for corporate tenants that provides insights into different solar structures, value-added benefits, and case studies from LBA's own solar projects to help tenants better understand the potential savings associated with renewable energy.

LBA has also launched a turnkey EV charging program in partnership with a third-party provider. This initiative specifically targets tenants impacted by South Coast Air Quality Management Division's Warehouse Actions and Investments to Reduce Emissions (WAIRE) program, helping the tenants achieve compliance and avoid potential fines.



PARAMOUNT GROUP INC.

Headquartered in New York City, Paramount Group Inc. (PGRE) is a fully integrated real estate investment trust that owns, operates, manages, acquires, and redevelops high-quality, class A office properties located in select central business district submarkets of New York City and San Francisco. PGRE is committed to implementing ESG best practices and recognizes that positive landlord-tenant relationships are key in achieving meaningful reductions in energy, emissions, water, and waste.

PGRE's team revamped tenant bills to feature monthly energy consumption compared to the previous year, with rankings that compared use among peers within the building. The analysis is refreshed each month as new billing data become available. It also includes the U.S.

Environmental Protection Agency equivalencies to help tenants visualize their monthly carbon dioxide emissions. Finally, it includes energy-saving tips.

PGRE considers this program to be key to tenant education efforts; the company is currently measuring its impact on energy consumption. Other tenant education programs the company has implemented include individual tenant meetings, quarterly ESG webinars, ESG data sharing, and announcements distributed through email blasts, the company app, and marketing efforts.

PGRE ultimately hopes that participating tenants will undergo energy audits that will identify opportunities to optimize whole-building efficiency.





