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Abstract Title: It's Automatic! Overcoming Behavioral Barriers with Technological Developments to Increase Energy Savings
Abstract Text:
While the energy industry has experienced huge growth in the adoption of comparative home energy reports as an indirect feedback mechanism for reducing energy use in the built environment, the level of savings has held steady at a modest 1%-3%. However, research indicates that buildings implementing efficient technologies could benefit from an energy savings potential of up to 30%. Some of these technologies seek to overcome behavioral barriers to energy efficiency; this paper will present original research findings that address the Venn diagram of behavior and technology. An example of this intersection is motion sensors for lighting, which some consider a basic version of automation that overcomes the barrier of habitual forgetfulness and disinclination to turn off lights. The market for technological interventions is evolving from technologies that address one behavior to a suite of interventions that overcome several barriers. Known as home automation systems, these offer synergistic savings and the promise of comfort and convenience for the customer. Such systems incorporate features that allow dawn/dusk automation, on/off schedules for devices to control plug load, and the use of self-learning energy-efficient thermostats that optimize comfort. This paper will present original findings from proprietary research conducted among consumers in the US and six European countries highlighting the features that respondents desire in a home automation system. These desired features are a proxy for identifying the behaviors that respondents hope to strengthen or supplant with automation, and represent market intelligence for policy makers, product developers, program designers, and implementers.