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Presentation Title: Hems For Savings, Dr, And Engagement: What (we Think) We Know

Abstract: Proponents have grand expectations for smart home technologies like Home Energy Management Systems (HEMS): a Jetsons-like future with well-orchestrated intelligent equipment and services that save time, headaches, energy, and money, while transitioning to a clean, resilient, flexible, distributed power grid. At the same time, energy efficiency program administrators hope for savings from these technologies as the lighting savings in residential portfolios decline. Though these products and services continue to evolve, a "smart home" is not yet the efficiency program equivalent of better light bulbs with clear function, incentives, and savings. The reality is more nuanced and begs the question: is the smart home simply a package of smart devices or, perhaps, a more desirable outcome that includes dynamic engagement with the homeowner - and the home's utility - to change behavior? If they are not simply another widget, how should demand side managers regard the smart home? First, we review the concept of a smart home, some of the most promising technologies and services to support demand side energy management, and how efficiency proponents are bringing a focus on energy savings to the smart home market. Next, we use direct experiences deploying smart/connected product pilots in multiple locations and stages (early development, pilot, post-pilot, and ongoing program) to discuss the opportunities, successes, challenges, and failures related to using these products and associated customer engagement designs. Finally, we offer suggestions to create and judge programs smart technologies by how they measure savings and performance towards energy goals, track both behaviors and traditional program participation, and create happy end-users.