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Poster Title: Know Your Energy Numbers (KYEN): A Program for Tween aged Boy and Girl Scouts

Abstract: The Know Your Energy Numbers (KYEN) program is derived from earlier published work with young Girl Scouts, used design thinking and behavioral science principles their to engage tween aged Boy and Girl Scouts in understanding their own energy consumption and draw insights for saving energy form their smart meter data. Youth learned key energy numbers pertinent to understanding their household smart meter data. This program was underpinned by results from previous work demonstrating that children have agency within their families, both learning from family members and in turn contributing to family behavioral norms. The first pilot program taught by Stanford interns and local Eagle scouts was composed of three sessions for middle school Boy Scouts, the second pilot was five sessions and delivered to middle school Girl Scouts. Session 1 served as an introduction energy basic concepts such as power, watts and kWh, time of use pricing and a review of reasons to save energy. Session 2 introduced Scouts to the load curve of daily electricity consumption and had them thinking critically about the electricity using device/appliances in their homes. Session 3 involved Scouts brainstorming about "how to save energy" and prototyping an energy saving plan for their own families. During Session 4, Scouts focused on learning what energy use activities created consumption peaks and how to reduce that peak energy consumption via curtailment, shifting practices and reduction of baseload. Finally, in Session 5, Scouts analyzed and shared the results of their home energy saving plans and role-played being energy advocates. Each session incorporated interactive activities including sticky note brainstorms, Kahoot quizzes, utility data analysis, roleplaying and video creation, and prototyping. At the end of each session teams of scouts created brief scenarios demonstrating energy saving actions, these scenarios were video taped and played back to tweens to reinforce their new learnings and view their behavioral rehearsal of energy saving actions and advocacy. Scouts also downloaded smart meter data and visualizations of that data were analyzed during the sessions. After the program, all Scouts indicated that they viewed the energy curricula as effective (very "€" extremely effective) and all viewed the visualization component of home energy data as extremely effective. These two prototype programs are aspects of a larger NSF funded project to create accessible technologies for youth to learn about practices that use energy and to modify those activities in response to real-time electricity consumption.