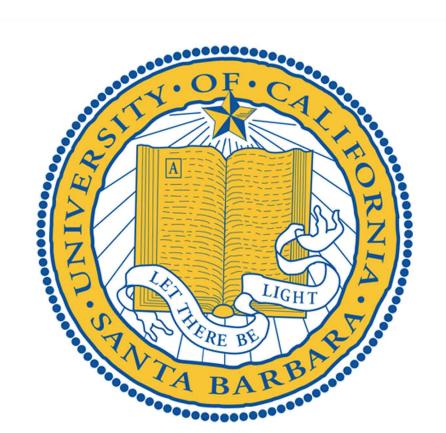


UCSB Operational Effectiveness: Energy Management Initiative

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Energy Use at UCSB

Purpose

The goal of this project is to reduce energy use at the University of California, Santa Barbara (UCSB) by targeting user behavior. There is a disconnect between building occupants on campus and electricity use because departments do not directly pay for their energy consumption and are unaware of how much energy they use. This program rewards departments with a financial incentive worth 50% of their annual energy savings.

Project Motivation

- UCSB is tasked with meeting the UCOP's 2025 Carbon Neutrality Goal.
- The main UCSB campus consumes around \$800,000 in energy utilities every month.
- The UCSB's Long Range Development Plan (LRDP) will expand campus for the expected 1% annual growth through 2025.

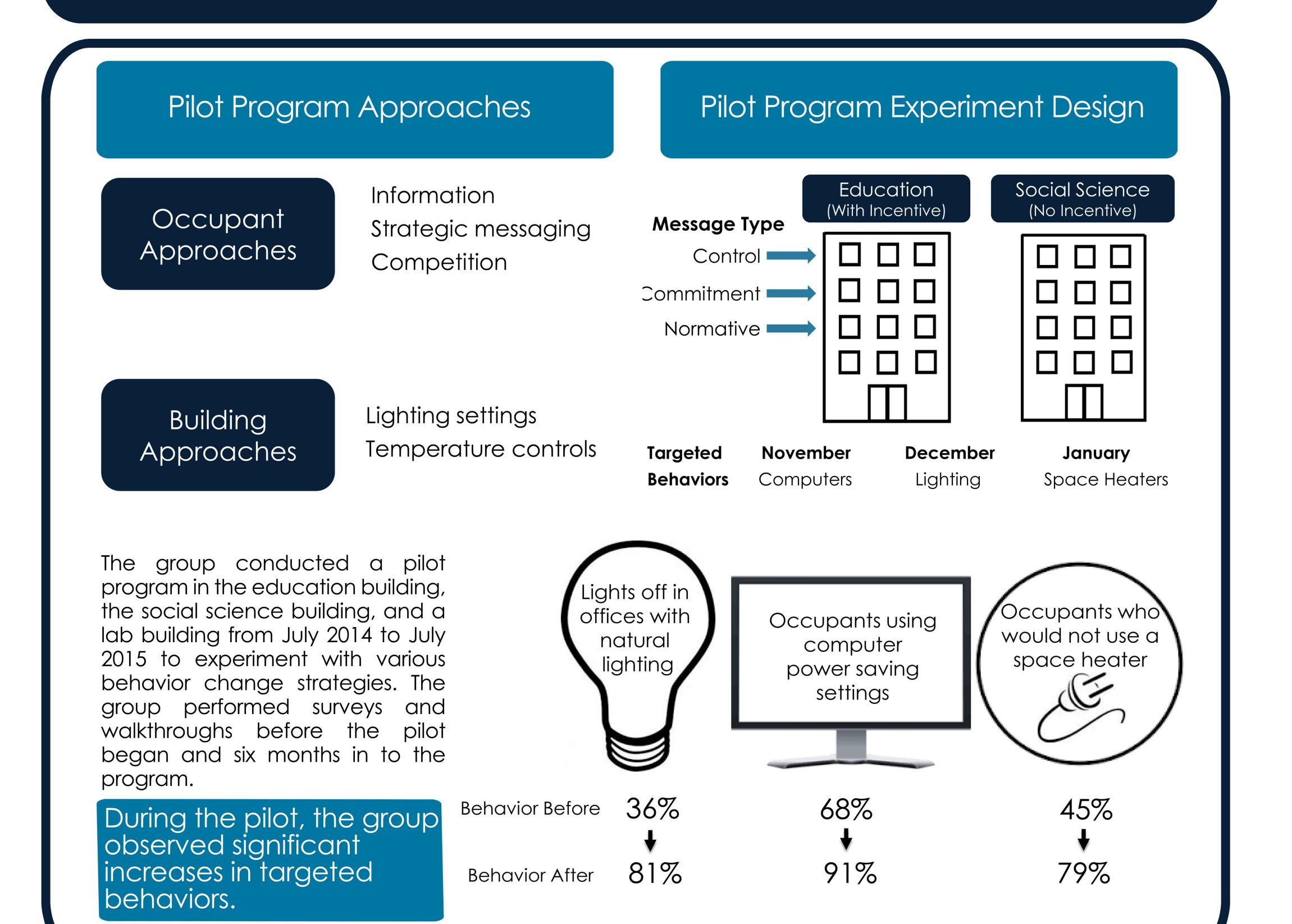
Research Questions

1. Which behaviors can be changed to reduce energy use?

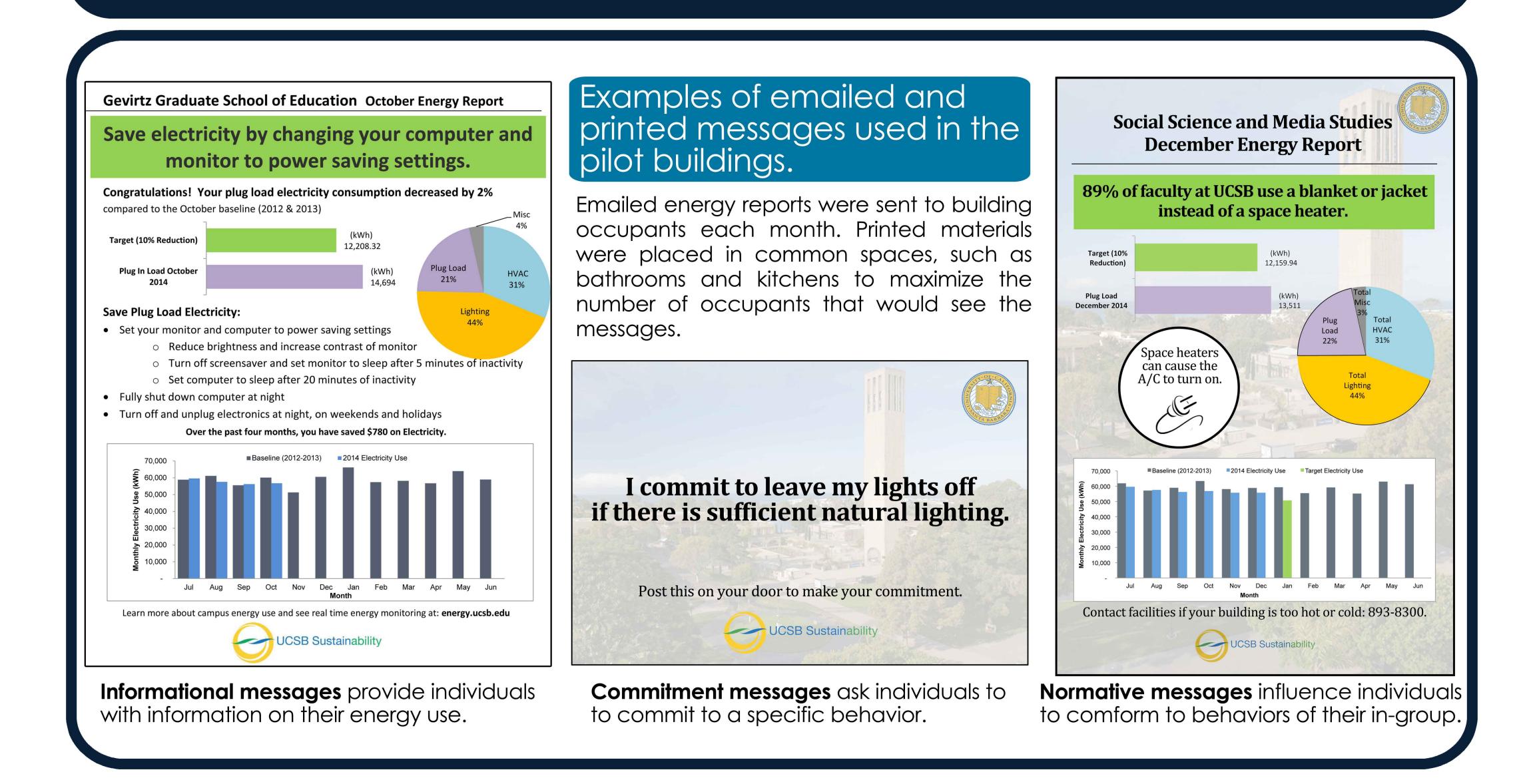
2. Which strategies can effectively influence behavior to reduce energy use?

3. How can strategies be scaled for a campus wide rollout?

Changing Occupant Behavior



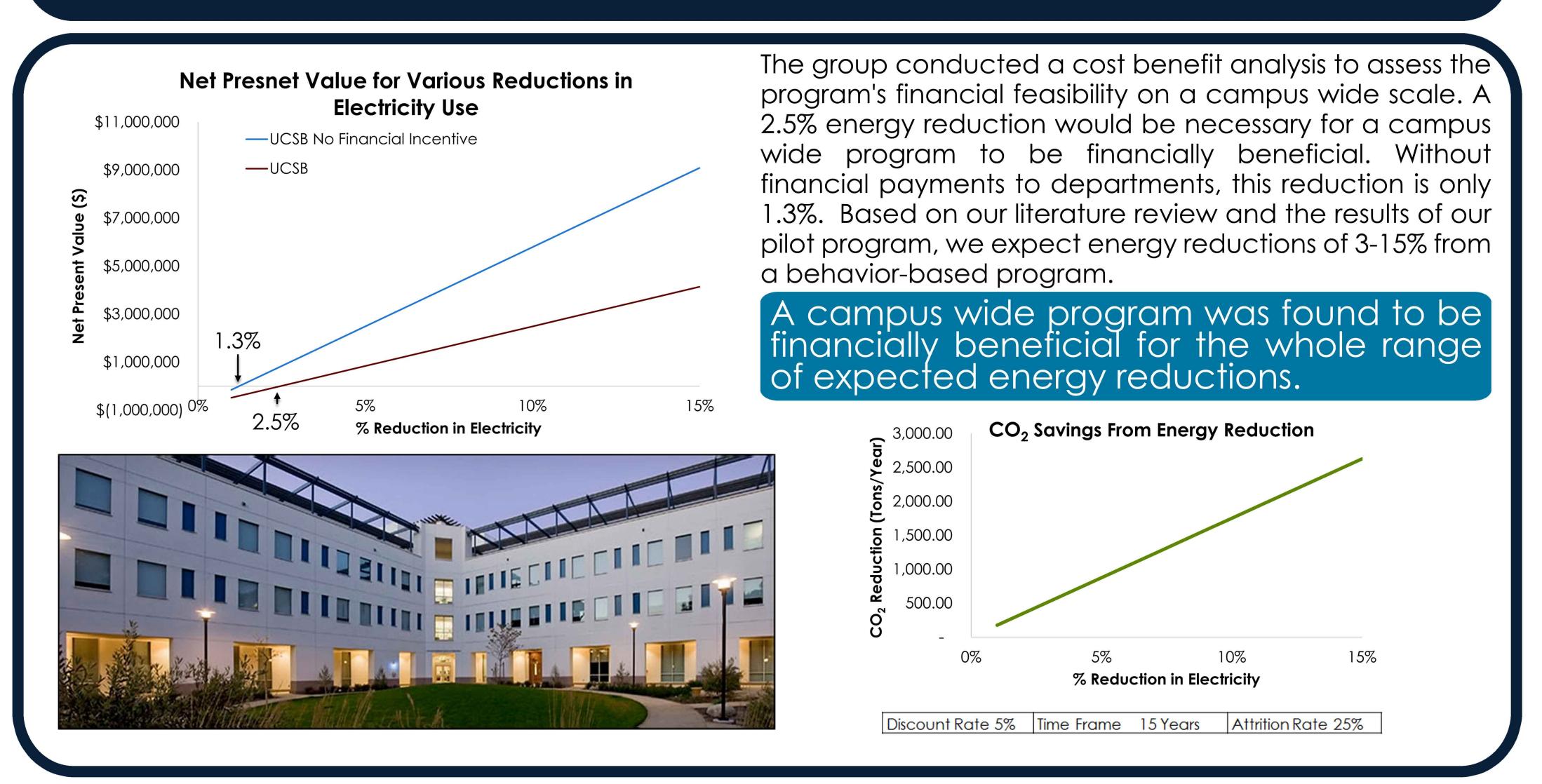
Strategic Messaging



Energy Reductions



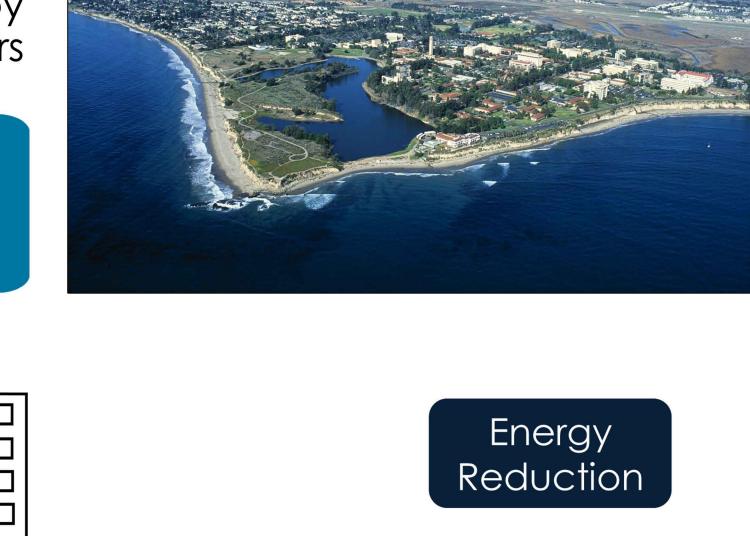
Financial Feasibility

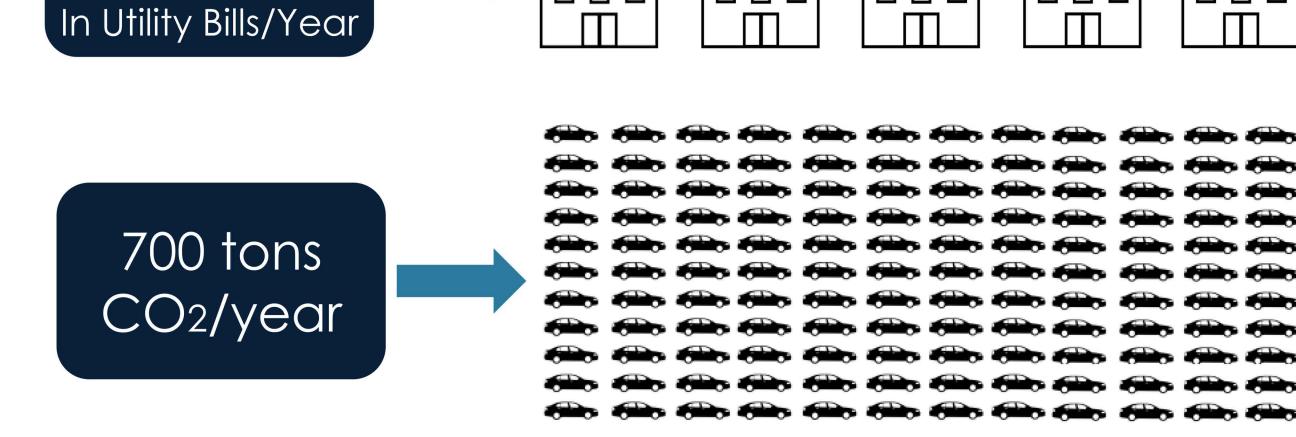


Campus Scale

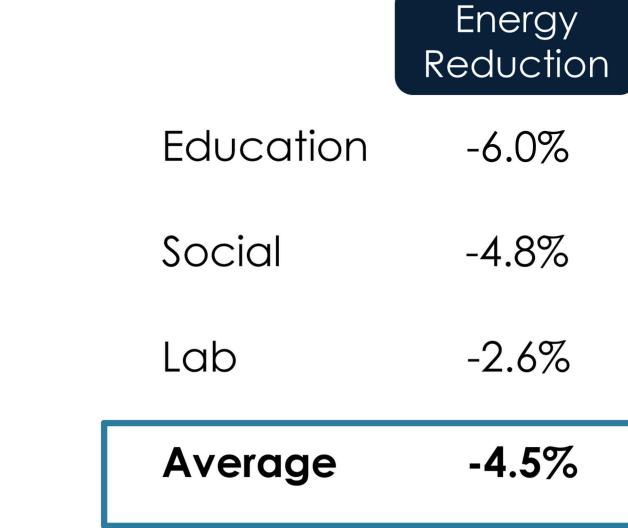
Given the average 4.6% reduction in the pilot program, a campus wide program would save UCSB over \$260,000 in utility bills per year. This is enough to install LED lights and motion sensors in five buildings' hallways and would reduce CO2 emissions by 700 tons/year, which is equivalent to taking 134 passenger cars off the road.

A behavioral-based energy management initiative is a cost effective way to significantly reduce campus utility bills and associated CO2 emissions.





\$260,000



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