Lendlease Building Energy Management System

Better Buildings Challenge Implementation Model Toolkit – BEMS Portal
April 2017
Residents are able to log in to the BEMS web portal through a username and password, which will navigate the user to the home they are currently residing in. This virtual thermostat allows the residents to monitor the current temperature of their home and adjust the HVAC settings remotely. By selecting the “Schedule” toggle button, the residents can customize their thermostat to pre-set temperature controls according to time of day, which is one of the main driver of energy savings.
Web Portal Interface | Energy Use Monitor

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My Electric Usage

My Home

Cooling

Heating

Plug Loads

Excellent

Average

Poor

Similar Homes

Cooling

Heating

Plug Loads

This page allows the residents to understand their home’s energy performance in comparison to other homes similar in size, year-built, and model within their neighborhood. Residents are empowered to understand and make changes based on whether the main source of energy consumption is derived from heating and cooling of the home, or other sources such as lighting, appliances, and electronics. This also allows the maintenance team to identify HVAC systems that may be underperforming, improving operational costs and management.
The BEMS features a Vacation Scheduler, which allows the residents to identify days their home will be unoccupied. Vacation Mode overrides the original thermostat settings to an aggressive energy saving settings of 62°F for heating, and 85°F for cooling for the set dates. Once the assigned time frame has passed, the thermostat settings revert back to the original settings, in time to make the home comfortable for its resident(s) return.
Mobile Application Interface

Mobile Thermostat

The BEMS solution also provides a mobile application, increasing its user-friendliness for residents. This interface allows basic control of the HVAC system to any user: current temperature of home, thermostat temperature setting, heating vs. cooling, fan on/auto.

Smart Temperature Setting

Residents are able to customize their temperature setting based on different times of the day. The four set points are: Wake, Leave, Return, and Sleep. By lowering the set point for heating and increasing it for cooling during the Leave – Return timeframe, residents can save energy while the home is unoccupied during the day.
Mobile Application Interface

Energy Use Monitor
Residents are able to monitor their energy consumption through the mobile app, which also breaks their consumption down by energy source and how they compare to other homes of similar size, year-built, and model.

Vacation Mode Scheduler
When a home will be unoccupied for a longer period of time, the resident can choose to initiate “Vacation Mode” for their home for a specified time frame. This will temporarily suspend their original thermostat settings and maintain their home at 62°F for winters, and 85°F for summers, ensuring their homes are not heating/cooling unnecessarily.