

# Knowledge



IN MULTI-USE  
RETAIL, ENERGY  
EFFICIENCY  
STARTS WITH  
ENERGY  
AWARENESS

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# Is



# Power

Retailers collectively spend more than \$21 billion per year on energy — over \$3 billion of which could be saved with energy-efficiency measures, according to the Retail Industry Leaders Association.

Such measures can be especially impactful in multi-use retail, said Tom Kay, Vice President of Sales and Marketing at Entouch, a provider of turnkey energy management solutions for multi-unit enterprises. Adding a restaurant, for example, means adding refrigeration, ovens and fryers, all of which consume a lot of energy. Likewise for espresso machines in cafés, medical imaging equipment in health care clinics and ATMs in banking centers.

Because of their additional energy requirements, retailers incorporating nontraditional venues into traditional stores should expect bloated energy bills. That is, unless retail facility managers follow Kay's advice for shrinking the energy footprint of new multi-use spaces:

## <16 KWH/Ft<sup>2</sup>

### 1

#### ESTABLISH A BASELINE.

Because you can't manage what you don't measure, first you must determine how much energy your facility uses, and at what cost.

"Often, a facility manager is given authority over energy, but they have no visibility into energy spent," Kay explained. He recommends obtaining regular energy statements from accounting to establish a baseline against which you can track progress.

There are numerous energy metrics worth monitoring. One of the most fruitful is kilowatt-hour per square foot (KWH/Ft<sup>2</sup>), calculated by dividing total energy use by the square footage of your facility. The lower the number, the lower the total energy cost. Retailers' target should be less than 16 KWH/Ft<sup>2</sup>, according to information from Entouch.

## 2

**PLAN AHEAD.**

It's not enough to study energy statements.

Facility managers must also study equipment, some of which may be new to them in the case of multi-use retail.

"If my leadership team made the decision to change the format of my store from Building Type A to Building Type B — and Building Type B had a restaurant or café in it, I, as a facility manager, would have to really up my game in terms of

understanding the equipment that's being brought into my store," Kay said. He recommends taking inventory of new equipment and researching its expected performance. Doing so might reveal opportunities for optimization. Kitchen equipment, for example, doesn't just consume electricity; it also generates heat. Facility managers who know that can plan ahead with HVAC upgrades or behavioral modifications that reduce cooling loads.

In the same spirit, facility managers who will work in new multi-use stores

must seek a seat at the planning table to ensure they're energy-optimized.

"The facility manager today may not have visibility into what's planned for tomorrow, so I would encourage them to partner with their counterparts in the new construction, real estate and design departments, to clearly understand where the company, as a whole, is going," Kay explained. He said stores perform best when they're designed with long-term maintenance in mind.

## 3

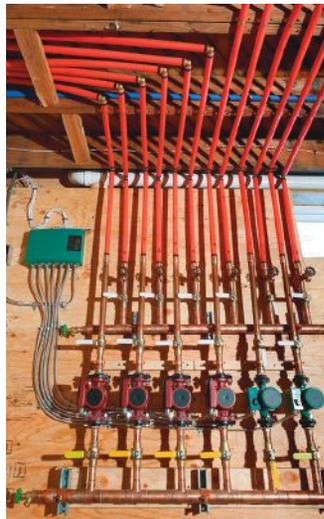
**EXPLORE THE CUTTING EDGE.**

Energy management is evolving rapidly. Two innovation centers that are particularly promising for multi-use retail are energy storage and the Internet of Things (IoT).

In energy storage, suppliers are rapidly maturing new chemical and thermal batteries that can capture and store cheap electricity to apply toward energy-intensive tasks like refrigeration; retailers can acquire energy from the electrical grid during off-peak hours, when costs are low, and store it in batteries that discharge it during on-peak hours, when costs are high.

"If you're smart, you will minimize the use of peak energy," Kay said. Retailers can also reduce peak energy consumption with "staging" — powering on rooftop HVAC units or other equipment incrementally — instead of all at once — to reduce energy loads.

Then, there's the IoT, at the heart of which are internet-connected sensors that enable real-time energy monitoring and reporting. When they use an IoT-enabled energy management solution, facility managers receive early notice when equipment is underperforming, which helps them perform preventative maintenance that optimizes energy consumption and extends the life of equipment. They can also adjust operations on the fly in response to energy fluctuations and — especially helpful in multi-use retail — divide stores into "zones" that can be dynamically managed based on their unique energy profiles. For example, if a store needs extra cooling in its restaurant because of kitchen heat, the facility manager can keep energy costs in check by lowering the temperature there and maintaining it elsewhere.



*A zone heating system can help reduce peak energy consumption.*



*Switching to LED lighting is one of the easiest ways to save energy.*

## 4

**PICK LOW-HANGING FRUIT.**

Although multi-use retail is complex, energy management doesn't have to be. In fact, some of the most effective energy measures are also the simplest.

Start with the thermostat, for example. "If your thermostat is located on the store floor, or even in the manager's office, employees are going to play with it unless you establish some level of control," Kay explained. You can physically restrict access to the thermostat or digitally program it to stay within a chosen range. Either way, a stable temperature translates into stable energy bills.

Another simple strategy is lighting. "If you have not converted to LED lighting, do it now because there's a large amount of energy being [wasted] by old lighting equipment," Kay said.

Kay concluded, "The retail facility manager is often seen as a cost center. But when they have actionable data about their assets and energy spend, retail facility managers become a cost-avoidance center, instead. And potentially even a profit center." ●