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Infrastructure

Making the case

By Jennifer Kearney and Michael Scorrano

Selling energy management initiatives to executives

Even with dramatically rising energy costs, health care institutions often miss opportunities for worthwhile energy enhancements because of a communications gap between senior executives and facilities management personnel.

While facilities professionals pour over technical details and seek “elegant solutions,” senior executives put on their green eyeshades and look at the bottom line. Thus, a facility manager recommending valuable energy upgrades risks rejection by failing to communicate effectively. He or she cannot get their point across if they do not speak the decision-makers’ language.

This gap can condemn a solid energy recommendation to failure. Facilities managers who want to successfully pitch energy investments must remember that senior managers focus on the cost-benefit value of infrastructure expenditures. Executives want concise presentations that come right to the point about how improvements benefit the bottom line.

Successful facilities managers must have the technical skills to maintain sound operations at their health care institutions. But to be truly effective as a manager—and win support for critical energy upgrades—they also need the skills to mount a persuasive business case for improvements. Facilities professionals must know how to research and package an effective pitch that will win buy-in for energy enhancements.

Best practices

Facilities managers can maximize the odds of winning support for energy investments by adopting the following best practices:

- Develop a convincing cost-benefit analysis in support of the project. This analysis should include not only a determination of the payback period on the investment, but also address other investment variables, as well as the funding source for the investment.
- Keep presentations short. Executives want concise, well-constructed proposals that zero in on economic payoff and do not focus at length on technological allure or reduced maintenance requirements. Brevity also works because an energy proposal typically stands as just one item on a crowded executive committee agenda.
- Where applicable, describe how a proposed energy investment contributes to patient care and comfort. VFD controls, for instance, may enhance the patient environment by reducing temperature fluctuation and decreasing the frequency of air control breakdowns.
- Use independent sources such as the Environmental Protection Agency’s Energy Star Partner program, whose experts provide guidance and data that can fortify a proposal. Once a facility’s energy strategy wins Energy Star validation, future upgrades stand a better chance of approval.
- Partner with a respected and reliable energy services company (ESCO) and incorporate its expertise into the development process.

In addition to designing and implementing a sound energy management strategy, these partners can help formulate the business case for valuable energy investments (see *New York-Presbyterian to achieve big savings*).

A competitive environment

Functioning in a highly competitive marketplace, health facilities face constant pressure to focus spending on projects that demonstrably contribute to the organization's success. It is therefore essential to package energy management proposals in the best possible financial light. Sophisticated health care executives should easily perceive the investment's dollars-and-cents rationale.

Before preparing a presentation, facilities professionals should meet with a top-level institutional financial executive (e.g., the chief financial officer, the comptroller, or a vice president for finance). This face-to-face meeting will have a couple of objectives.

First, it will help health facility professionals identify funding sources for the proposal. To assess funding sources, facilities professionals should have a basic understanding of the overall institutional budget. They should know how capital improvement costs are normally covered, and they should know funding sources for past energy-related improvements.

Some health care centers may have discretionary funds set aside for infrastructure improvements. Similarly, there may be a dedicated budget for capital projects and equipment investments, or a special fund that can be tapped for energy investments.

Facilities professionals can also talk to the financial executive about the possibility of third-party financing of major upgrades. An ESCO partner can be helpful in exploring these options. The lending community is increasingly aware of savings that can be leveraged by high-efficiency energy investments.

The second reason facilities professionals should meet with a top financial executive is to obtain a clear picture of the institution's frame of reference with respect to investment decisions. For example, individual institutions usually define their own benchmark payback periods, typically spanning from two to six years.

It is also useful to learn the cost-benefit impacts of other capital projects approved by the facility—especially the energy-facing projects. And the facilities professional must identify the benchmarks and criteria that will bolster the business case for the expense.

Presenting the data

After the information is gathered and digested, facilities professionals should present a clear, concise business case for their recommended investments by using data-based graphics. This helps executives make quantitative comparisons among upgrade options. Some of the key terms used in these graphics include the following:

- **Discount rate.** The discount rate is the value used to determine the present value of future cash flows arising from a project. Discount rates are typically specific to the particular institution. In the discussion below, the institution's discount rate is valued at 20 percent.
- **Net present value (NPV).** Typically the chief indicator of investment value, NPV calculates the value of a net cash flow (cash inflows less cash outflows), adjusted for the time value of money and the institution's discount rate. NPV compares the value of a dollar today versus that dollar's value in the future, after factoring in the savings an energy investment is expected to deliver. Projects with the highest NPV are the most sensible investments. Those with a negative NPV should usually be rejected.
- **Internal rate of return (IRR).** The IRR is the discount rate that renders a net present value (NPV) of zero. Investments with a high IRR typically have shorter

payback periods. The value of IRR is generally derivative of the NPV. Projects with a higher IRR are typically wiser investments, after taking into account project cost.

For example, Chart 1 compares savings that would be generated by two alternative upgrades: occupancy sensors versus a central time clock. To hold external factors equal, each technique would be installed in the same, specific location.

The chart shows the actual, initial cost of the investment, along with the value of cumulative energy savings over a 10-year period. This latter time period can vary, but would typically reflect either the economic life of the investment or a time period against which institutional investment decisions are usually measured. Chart 1 also calculates the “simple payback” period in years, as well as the IRR.

Based solely on the information in Chart 1, an institution would see that either investment would deliver returns. The central time clock’s IRR exceeds that of the occupancy sensors. But time clocks cost one-fifth the price of sensors. If the institution can afford sensors, they would yield more than three times the net dollar savings of the time clock within a decade.

Chart 2 builds considerably upon data from Chart 1. It presents four measurements evaluating the benefits of seven typical energy initiatives. These four measures include annual savings, simple payback period, NPV and IRR.

For the sake of this example, we will assume the institution is prepared to spend about \$50,000 on energy upgrades. One judgment is immediate: Options 6 and 7 (improve task lighting and daylight dimming controls) both have a negative NPV and should drop from consideration.

When comparing factors in Chart 2, the most important variable is NPV, followed by payback period. Aiming for the highest NPV for a \$50,000 investment, the institution might choose to invest in a combination of Option 1 (occupancy sensors) and Option 3 (LED exit signs).

But other factors may intrude. What if existing office lighting has begun to fail and needs replacement? Then Option 5 (upgrade office lighting) may be a sensible choice.

Factoring electricity prices

Facilities professionals must also research the institution’s past energy usage and spending. When it comes to the hard numbers of energy spending, the only actual data available reflect past costs and current costs. But how does a presentation factor in future costs?

Facilities professionals can project future energy spending by performing a “sensitivity analysis,” which anticipates cost scenarios and their impact on investment metrics. Graph 1 on page 28 takes IRR performance data for the two measures presented in Chart 1 and tracks them across a projected 20 percent increase and decrease in energy costs. The effects are linear. As might be expected, benefit levels basically match up accordingly with anticipated changes in electricity costs.

But in Graph 2, crossed lines show how price volatility can become a factor in executive decision-making. Using an NPV with a 20 percent discount rate, results vary depending upon anticipated changes in energy costs. In this instance, an institution might select Option 1 (occupancy sensors) if dramatic price increases were expected. If lower energy prices or price stability were anticipated, Option 2 (central time clock) may be preferable.

Particularly robust projects deliver substantial, dramatic energy use reductions. Using a sensitivity analysis, managers can make a business case that robust proposals are wise investments even under a scenario of declining energy prices.

Also, facilities professionals should be prepared to compare the cost-benefit impact of energy proposals against that of previous energy investments.

Speak the language

Because they appreciate the value of technological improvements, health facilities professionals intuitively understand that energy upgrades contribute to the institution's success.

The challenge for these facilities professionals is to switch from "tech talk" to "money talk"—and to effectively speak the language of corporate decision-makers in pitching these investments.

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