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Energy Investments in the Middle of a Recession?

By Richard G. Lubinski

According to Eastern philosophy, yin and yang are complementary opposites within a greater whole. Everything has both yin and yang, which continuously interact, never existing in absolute stasis. Management decisions also have two sides, and an enlightened organization should consider energy-management projects when times are tough.

If you propose making energy-management investments during a recession's reduced operating and capital budgets, will your boss respond with: (A) "Are you crazy?" or (B) "That's a great idea!"? It depends on how an energy-management investment is positioned. The obvious and simple response is that there is no money in the capital budget for X and, therefore, it's not going to happen this year. This mindset views energy management as an expense and not as an investment with tremendous return. In fact, a recession is an ideal time to reduce expenses, including utility expenses. Electricity rates are increasing in regulated and non-regulated markets; if these increases weren't anticipated, your expenses may already be exceeding budget.



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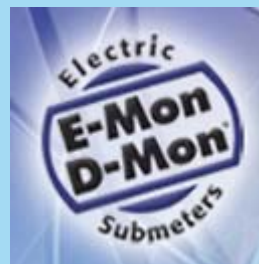
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The time value of money is also being affected by the recession. Banks are typically paying half of 1 percent for savings accounts, and maybe 3 percent for the longer term of a certificate of deposit (CD); therefore, an energy-management project that yields a 2-year simple payback period (50-percent ROI) is an extremely attractive investment. Now we're thinking like a CFO and not a mid-level manager (who may not feel comfortable thinking outside the box). Such an investment can pay for itself in a short time, improve your lighting, HVAC or control system, and continue to provide savings to your company over the next 15 to 20 years. The net present value (NPV) of most energy-management investments is positive and blows away many alternative uses of the funds.

While the payback period, ROI and related financial measurements should seem obvious to management, it's not unusual for people to miss the long-term impact of an energy-management improvement. I once had a project with a simple payback of 2 years rejected by the finance department of an \$85 billion bank because it "did not make the hurdle of 15 percent IRR" (internal rate of return). I asked to meet with the financial analyst so I could better understand the methodology. It turned out that the analyst had included the energy savings in the cash-flow model only in year 1. When he understood that the utility cost savings would continue for 10, 15, and even 20 years, his statement was, "That will make a big difference!" The IRR and NPV calculations were run again with the correct data, and the project was approved the following day. A simple tool is to show the bottom-line cash flow over the next 5, 10, 15, or even 20 years in a table and in a bar graph format. This way people will understand the big picture.

Vendors think they need to do a hard sell on energy-management projects because it increases their closing ratio if a project "looks too good to believe" and, therefore, the customer can't say no. If you think about this famous expression, you'll discover why so many energy-management projects are rejected. The January 2009 edition of *Bottom Line Energy Issues* [covered how – and how not – to be successful selling an energy-management project to the CFO.](#)

A conservative, soft-sell approach to an energy-management investment should not use the potential cash flow in the base proposal from any of the following:

- Operations and maintenance savings.
- Average cost per energy unit (use the incremental or true cost/unit).
- Incorrect operating hour assumptions (e.g. the lights run 24/7 or 8,760 hours per year).
- Standard tax treatment.
- Accelerated tax write-off, compliments of the EPAct of 2005 (immediate expense election under IRS code 179D for lighting and some other energy projects that exceed *ASHRAE 90-1 – 2001*).
- Demand-side management (DSM) rebate from the local utility or state energy office.

This conservative approach builds a comfort level in the financial planning model and makes the numbers easier to believe, easier to approve, and easier to fund.

The alternate cash-flow model of the same project can now include the demand-side management rebate. This assumes that your project is properly engineered, uses accurate hour data and conservative energy engineering calculations, and is prequalified for the DSM rebate. Many DSM programs require pre-approval to qualify for a rebate.

The traditional hard-sell approach produces results only about 10 percent of the time, wasting effort and causing possible damage to your company reputation. The more enlightened and conservative approach produces results over 50 percent of the time. With the help of an *independent* energy consultant like a certified energy manager (CEM), your chances of success should approach 70 percent.

An investment in energy management typically follows a prior step: attacking your opportunities for low-cost or no-cost energy-conservation measures (ECMs). Every building has such ECMs available, and these should be addressed first. An analysis of your year-over-year energy consumption (kilowatt-hours, therms, gallons of water, etc.) builds credibility for your energy-management efforts. Past performance is the key to winning support from senior management and owners for the next phase in your multi-year energy-management program.

Is there an official or unofficial simple payback period that someone in your organization has stated as the hurdle rate for investments? Has someone determined that your company will invest only in a project with a 1-year payback? Maybe at General Motors, a payback of 1 month or less was necessary to gain senior management support. With the exceptions of AIG, certain banks, and the auto industry, most companies are allowed to think beyond this month, this quarter, and this year. If you manage a school or a local government facility, you can depend on the building being there in 30 to 50 years. Most companies can also accept the idea that the business will be there in 5 years and, therefore, a 3-year simple payback period (using conservative assumptions) is an attractive investment. If a local bank were offering 33-percent interest on a CD, we all would be rushing to take advantage of this great ROI.

A paradigm shift occurs within your organization when energy management is viewed as an investment rather than an expense.

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Richard G. Lubinski is president of Think Energy Management LLC, an internationally recognized energy consulting firm. He is also a Life Member of the Association of Energy Engineers (AEE) and serves as the president of the Northern Ohio Chapter of AEE. Lubinski holds several national professional certifications including Certified Energy Manager, Certified Energy Auditor, Certified Demand Side Management Professional, Certified Sustainable Development Professional, Certified Energy Management Systems Contractor, Certified Business Energy Professional and Certified U.S. Green Lights Survey Ally. He was named Energy Engineer of the Year 2009 (AEE Region III), Energy Manager of the Year 2006 (AEE Region III) and Energy Engineer of the Year 2008 AEE Northern Chapter.

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