



Realistic or Politically Correct Energy Management: Boss learns the hard way

What's Efficiency Got To Do With It?

"Tell me, JJ, what's this capital request all about?"

"Boss, this is for a heat exchanger that will use our cooling tower water for meeting our air conditioning needs when it's cold outside. I figure it will save 5% of the power we now use for operating our chiller. The project should come in at around \$10,000 and have a payback of less than a year."

"Saves energy does it? We can use this project to get greenie points towards obtaining Polar Bear level on our Politically Correct Building certification."

"Maybe, but getting that certification takes a lot of paperwork and costs about \$50,000."

"Include a bicycle rack in this project, which gets points also. And does this thing use electricity?"

"A little bit, for controls and automatic valves."

"Good. Include a solar panel to power it and put it over the entrance to the building so it can be seen. It'll make a great picture."

"Sir, the temperatures that make this equipment effective occur mostly at night; and the entrance to the building faces north. Further a solar panel will run about \$200,000. This will ruin the payback."

"Don't get all technical on me. And we don't use money for payback anymore. Just figure the equivalent trees planted and the amount of Greenland glaciers saved."

"But, Boss..."

"You'll also need to form a committee with representation from many departments. We want our people to feel

good about the company's sustainability efforts. Oh, and be sure to include Henderson over in shipping and receiving. We found out he's 1/8th Chippewa."

"What..."

"I know, I know he doesn't look Chippewa to me either; but diversity is an important goal here at Amalgamated Widget."

Six months later

"Boss, about the heat exchanger project..."

"It's going great, JJ. We've had two news articles in the national press, an internal survey shows our employees are proud to work here, and we are up for a Gore Corporate Responsibility Award. Further, we have a great picture of the solar panel with the company logo in the foreground that we will use on the cover of our annual report."

"I just came from the chiller room, and there's no heat exchanger there."

"Oh, that thing-a-ma-bob for the basement. We bought carbon offsets instead, got much better press. Besides, we've spent 450 thou so far on this project; we had to make some budget cuts somewhere."

Green Consequences

"JJ, get in here!"

"What is it, Boss?"

"I've had accounting pull our power bills for the last few years. Even after spending \$2 million on getting our Politically Correct Building certification at the Polar Bear level, we are not saving any money on energy costs!"

"That's right Boss. Most of that money was spent on things that

have nothing to do with saving energy. And what you don't see by looking at power bills is the increased maintenance costs and all the time spent on filling out paperwork."

"What about all those meters we put in? Don't meters save money?"

"No, Boss. Meters may provide information that can help make management decisions about operating practices and assess changes. But we just use them for reporting on all the green programs we are involved in."

"JJ, what can we do? The company is losing money; we can't afford any more green stuff that offers no savings."

"From now on let the engineers, not the public relations people, pick out the energy projects."

DSM in Practice

"JJ, there is great new Demand Side Management program where the power company will help pay for new high efficiency equipment."

"I know about it, Boss; but it won't do us much good."

"Why not? Look here; it says that they will pay us \$5 per horsepower to get new efficient motors."

"This facility is only 20 years old, and most of our motors are the high efficiency type. The motors for air conditioning fans run about \$100 per horsepower, so \$5 is hardly enough to justify changing them. Besides, as our standard type motors burned out, we already replace them with high efficiency models based on the energy savings."

"So we can't really get much of this free money?"

"Right, but this program already adds about \$500 a month to our bill and will increase to \$1,000 per month over the next three years."

"Sounds like there is no way we can come anywhere near getting our money back."

"Even if a building is really energy *inefficient* there is no chance of coming close to breaking even. Such as the building of our competitors, ACME Gizmos, that has

had sloppy maintenance for years. They are getting a sizable rebate from the power company."

"What? JJ, does this mean we are paying for our competitor's improvements after we spent our own money making those same improvements?"

"It gets worse, Boss. For every dollar the power company gives ACME, the power company gets to charge \$5 to its other customers, including us."

What to do

"JJ, our energy bill is high and getting higher. We have installed solar panels, purchased green power and obtained our Politically Correct Building certification all at considerable cost. Why aren't our energy bills down?"

"Boss, we need to spend our money on things that really cut energy use and costs. Such as lighting upgrades. There are breakthroughs in lighting technologies about every two years. Also air conditioning equipment is getting better and better. If we properly assign the cost of peaks caused by air conditioning, we can justify change-outs to newer more efficient equipment. We need to improve our ventilation control. We should paint the roof white, over time retrofit to smart motors and drives, and use sophisticated controls."

"Sounds like these things will save money. How about utility rebates?"

"If we are making a retrofit anyway then we might as well apply for such rebates. After all we paid a pretty penny into the fund for these efficiency upgrades."

"But, JJ, how do we cut the costs of the power itself?"

"We must become cognizant of where our significant costs are, namely the cost of power during utility peak periods. We must learn to control our demand as much as possible as well as employing risk management tools. Further, we must advocate time-sensitive pricing, rational rate designs, and market access."

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