

College Lessons Part I

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Figure 1: This wind turbine rarely turns a blade, and it's not for lack of wind. It is a non-functional "accessory" for a college branch campus paid for with public money.

What I show in the introductory image is a wind-turbine; or rather, it would be a wind turbine if it actually turned a blade. In the past three years,

however, the blades on this turbine rotated for a couple of months only. I'd call it a statue to wind turbines. Good art costs a lot.

This particular turbine sits on a branch campus of a community college. Where and which college is not important. That public funds were used to purchase and install it, and those funds were completely wasted, however, makes this example a valuable college lesson.

How does a project like this begin?

Anyone might propose a project like building a branch campus; a community group, or college administrators are two common examples. However, the Board of Trustees is the group responsible for college governance, and would have the final decision on whether to build the branch campus and in what form. This wind turbine was part of a branch campus project, but it was such a large individual expense that the Board should have considered it a separate item.

My research of Board Minutes from the representative time period does not show any specific consideration about whether to purchase and install such a wind turbine. Nothing at all. Often a motion written by administrative staff itself will suggest that the Board adopt a goal or approve a project. While I admit that an unpaid, elected Board would have trouble governing a college without administrative suggestions and input; such a process invites internal special interests to begin to run the school. This turbine shows where special interests lead.

What a Board ought to do

Boards have many duties that vary from one institution to another, but most Board members view themselves as advocates for their college. Most often this advocacy takes the form of 1) supporting the president (sometimes unquestioningly) and 2) finding resources for college projects. Yet, the Board should also protect the college from special interest pressures. They should make sure that the college does a fair job of meeting the needs of the community and its students; while at the same time insuring taxpayers that resources are well directed. They do this by asking pertinent questions regarding new initiatives and continuing expenditure.

Many if not most books, articles, and training sessions about trusteeship make this point, but only in the context of many other imperatives, especially those about not trying to micromanage the college and in speaking with “one voice.” In my experience aggressive questioning directed at a project of this sort gets interpreted as micromanagement and questioning the administrators competence. Board members hate to irritate the administrators they govern. The Board should persist anyway.

Benefits and costs

Projects have benefits and costs. We should not engage in projects where costs, no matter who bears them, outweigh benefits, no matter to whom they accrue. Let’s examine the costs and benefits of this project.

In the specific case of this wind turbine benefits could come from only three places 1) reduced energy expenditures to the campus, and 2) educational opportunities the turbine might provide, and 3) notariety the turbine could provide for purposes of recruitment or campus advancement.

Considering that this turbine was a rebuilt piece of thirty-year old technology, and that it was opposed by the nearby community and required code variances, we can pretty well conclude that items 2 and 3 on our list of benefits had a value of zero. Costs include the first cost of purchasing the turbine and installing it on site, and its continuing maintenance.

At the end of its useful life the turbine could possibly have some salvage value. Should a person consider this an addition to benefits or a reduction of costs? If the salvage value is a small fraction of either the costs or benefits, then it doesn’t matter how we treat it. A conservative treatment is to add it to benefits.

Let’s calculate a benefit to cost ratio. Reduced power expenditures to the campus we figure by taking the rated capacity of the turbine (75 kW), multiplying it by a utility factor (25% is reasonable) and multiplying by the number of hours in a year. This becomes the annual energy delivered to the campus in kWh . Then, we multiply by the cost of electric power (0.08 per/kWh) to reach the savings per year.

$$0.25 \times 75 \times 24 \times 365 \times \$0.08 = \$13,140 \quad (1)$$

Since these savings occur on a sort of regular schedule over many years, we must turn this into a present value of savings by multiplying by a factor

$(\frac{P}{A}, 7\%, 20) = 10.594$. I have used 7% as a discount factor here because it is reasonable and the Office of Budget and Management (OMB) of the Federal government recommends it.

$$\$13,140 \times 10.594 = \$139,205 \quad (2)$$

As far as costs are concerned, let's not consider the costs borne by the neighbors who opposed the project, and figure that the turbine will not need any maintenance over its twenty-year life. These are very optimistic assumptions. These *first costs* were about \$250,000. If the turbine were to have any salvage value in twenty years, it wouldn't do more than recover the cost of decommissioning. Therefore

$$B/C = \$139,205/\$250,000 = 0.56 \quad (3)$$

Thus, in the most optimistic evaluation imaginable the benefit cost ratio is about one-half. This wind turbine question should literally have been a "no brainer" for the Board to assess, and to reject. Yet, forward they went.

What questions could the Board have asked?

What the Board could have asked about the wind turbine was quite simply "what is its benefit to cost ratio?" Yet this Board asked nothing of the sort. My experience tells me that the staff who promote this project would not have had an answer to this question, unless the Board had a reputation for asking such things. Beyond the simple question, however, the Board could have asked for the assumptions that went into the calculation. Sufficient questioning will indicate the quality of thinking that went into a proposal. Consistent questioning of this sort will improve the thinking that precedes presentations to the Board.

A wrong view of public money

When public money comes to local schools through the Federal government, and to a lesser degree from the State, local people tend to view it as free money. They rationalize wasting it by saying to themselves "if we don't take this money someone else will." Or they think to themselves "this is our tax money being returned to us that may never see returned if we do not use it

now.” Money not earned directly, money coming from a distant source is not treated with the same care as funds earned through local effort and gathered from local taxpayers. This is a universal phenomenon.

However, even if money comes from a distant source, it still represents money gathered from taxpayers like you and I. If we would like to think that money gathered from us, but spent on projects far away, is spent wisely, then we ought to insure that our own projects are wise expenditures too. There are always projects that go unfunded. Many are very worthy. Certainly when this turbine was proposed, somewhere an unfunded project had a benefit to cost ratio larger than one. Money should have gone there rather than here.

Even if there is no competing public project with a benefit to cost ratio greater than one, though, we might consider that tax money left in the control of taxpayers, themselves, will migrate to projects that do have a ratio greater than one. Possibly taxpayers spend money wisely.

Boards might also consider that even marginal projects (this one is not even marginal) will become sinks for local resources. This wind turbine, for example, possibly became a sink for maintenance resources needed elsewhere on campus, which explains why it never runs.

Being a loyal advocate for a college means saying “no” to some projects. To people who claim we cannot reduce government spending without hurting the public, this wind turbine answers that “Yes, we can.”