

## Net Present Value - Beyond Capital Projects

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When you sit down with an engineering company to discuss energy saving projects for your district there are a several metrics used to compare what will deliver the biggest bang for the buck. One of the more common metrics is Net Present Value - which quantifies the value of spending money on something. After the project is complete and the maintenance program starts the components used within the maintenance program usually do not undergo this same evaluation. So if you install a great new HVAC system, why not take this same evaluation of the components you use to maintain the equipment to *maximize the value of your investment*?

To illustrate how you can use these metrics in comparing higher quality components are actually worth the added expense here is an example of how you can use NPV for HVAC components. The example building just installed new HVAC systems and these systems will need 100 air filters per change with two changes per year. To set a baseline it will be assumed that the current filters cost \$4ea. and energy modeling determines the filter uses \$77.72 in energy per year to move air through the filters.

NPV Example Calculation: A more energy efficient filter that meets the MERV specification is proposed, but the cost is \$6 *more* each (\$1,200 in extra costs per year), but will only consume \$46.63 in energy per year using the energy modeling formula as the baseline. The discount rate used is 4.25% which is current prime rate plus 1%. Inputting these values into the NPV formula that extra investment of \$1,200 in better performing components has a Net Present Value of \$2,982.25 which is a *net gain* of \$1,782.25 more than double the increased expenditure.

In today's world of tighter and tighter budgets and a focus on lowering purchase prices on "component" or "commodity" items routinely used in maintenance programs they are often times hurting the District's capital budgets – further delaying the ability to implement other projects. Given the choice we all want to use the best products on the market because it makes our lives easier. Being able to show in multiple ways how your district will financially benefit can make it easier for you to get approval for better products.

