

## Energy and Environmental Design Project

### Chill Out

#### Mission Statement

Provide Westminster Tool a state of the art centralized cooling system to reduce energy consumption for temperature sensitive machines.

#### Synopsis

Westminster Tool wanted at least one different cooling method for their manufacturing machines that would have the excess heat dumped outside the building keeping the workspace in workable temperatures. This would medigate the need for year around cooling with their industrial air conditionars saving the company money year-round.

The team broke into three sub groups that could focus on three different technologies that would do the same job as the current system but with an overall decrease in cost and carbon foot print. We narrowd down the options into three sytems geothermal technology, cooling towers, and external chillers.

After calculating the total heat output all the chillers dumped into the workspace we then calculated the amount of work the air conditioners did and how much electricirty was consumed yearly. After the systems were picked the ROIs and BEPs were calculated which included the up front cost of the sytems, installation, and the power needed to run them yearly.

The team concluded that the external chillers method was not capable of having an acceptable ROI compared with their existing geothermal sytem



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