

BUILDING EFFICIENCY: FINANCIAL ANALYSIS ON BOILER REPLACEMENTS

Technical Considerations and Calculations

Information Gathering Questions:

- What's the difference between the efficiency of a new technologically replacement boiler and the actual efficiency of the building's twenty year old boiler (not "plate" efficiency)?
- What's the installed replacement price of a new boiler?
- What is the building budgeting for repairs over the next two years?
- Has the boiler broken down and because of the breakdown has it caused tenant discomfort?
- How much time did your team have to spend on dealing with the repairs and tenant discomfort?
- Is there a possibility that it could break down and need to be replaced earlier than you expect, such as right in the middle of winter and mean that you would have to scramble to repair it and even overpay?
- Do you need a custom size?
- Is there new technology available that can help your old boiler extend its life or make it more efficient?
- Are there other items that create energy savings in the capital plan that could be installed at around the same time that could be used to pay for the boiler through savings generated from the efficiencies?
- What's the Undepreciated Capital Cost Allowance (UCC)? What's the Capital Cost Allowance Rate?
- What tax rate is it reasonable for me to use?
- What's the capitalization rate that is reasonable for me to use?
- Is it possible for you to raise the rents if you have a building that is more comfortable?
- What is your understanding of "sunk cost"?

Answers and Assumptions:

CCA Rate:	18% (no half year rule)
Tax Rate:	25%
Repair Cost per year:	\$10k for old boiler per year
Life of new Boiler:	10 years - without repairs
Energy cost escalation:	3% per year
Disposition value:	0 (old equipment)
Efficiency:	14% improvement
Degradation:	0%
Incentives:	0%
Discount rate used:	3%
Money left in Bank:	3% per year in interest

Maintenance Cost:	Same for both old and new boilers
Insurance Costs:	No increase except for inflation and not factored in - same in all cases
Building Value:	Impact removed for repair cost savings after two years - the boiler was going to be needed to be replaced then anyway
Other assets:	No other energy efficient assets to blend in
Sunk Cost:	Irrecoverable funds - already spent and previously budgeted
Funding Cash:	There are no other immediate needs for the money for safety issues and financing is available if needed
Time diverted to repairs:	10 hours per year - not included in cost of repairs