Summary

This case study has provided an analysis of capital, performance, operational, and resource use costs for one facility operating as a professional wet cleaning facility. It is hoped that this information will be helpful to other similar shops considering in-house professional wet cleaning.

For More Information

For more information about the Institute's wet cleaning program, please visit www.turi.org/drycleaning

Total Wet Cleaning Costs

Item	Annual Costs
Equipment	$3,761
Performance (send-outs)	$0*
Operations	$2,580
Resource Use	
• Electricity	$2,802
• Oil	$13,030
• Water	$1,705
• Sewer	$2,234
Total Cost for 12 months	**$26,112**

*There were initial costs for send outs, but they diminished to zero and remain there.

About the Toxics Use Reduction Institute

The Toxics Use Reduction Institute (TURI) at the University of Massachusetts Lowell provides the resources and tools to help Massachusetts businesses and communities make the Commonwealth a safer place to live and work. Established by the state's Toxics Use Reduction Act of 1989, TURI provides research, training, technical support, laboratory services and grant programs to reduce the use of toxic chemicals while enhancing the economic competitiveness of local businesses. Learn more at www.turi.org.

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CASE STUDY

Best Neighborhood Care Dry Cleaner, Medford, MA

Eliminating the Use of Toxic Chemicals in Dry Cleaning

A Cost Analysis of a Wet Cleaning Shop

TURI
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Dedicated Wet Cleaning Shows Conservation of Resources and Overall Cost Savings

Overview

The Toxics Use Reduction Institute (TURI) has been working with the dry cleaning sector for over ten years. TURI is focusing on the ultimate goal of eliminating the use of perchloroethylene in this sector due to the availability of feasible alternatives, particularly professional wet cleaning.

In April of 2009, TURI awarded Best Neighborhood Care Dry Cleaner (BNC) of Medford, MA a $16,000 matching grant to convert its shop from a drop-off facility to a dedicated professional wet cleaning facility. The shop previously conducted laundry operations on-site and sent out garments for dry cleaning at a shop using perchloroethylene (or perc). To accommodate the new professional wet cleaning equipment, including a washer, dryer, and tensioning equipment, BNC expanded into the store front next door. BNC opened as a dedicated wet cleaning facility in June of 2009. Currently, garments which would have otherwise been dry cleaned using perc are cleaned on-site in professional wet cleaning equipment and shirts are laundered on-site. The facility operates with about 2.5 full-time equivalent employees (FTEs) and processes an average of 100 items per day in the wet cleaning system and launders about 500 shirts per day.

TURI collected 12 months of data from BNC on its capital costs, performance, resource use, and operational costs as a dedicated professional wet cleaner — the data also include costs of resources associated with laundering shirts (electricity, oil, water, and sewer). These data are presented here to give others cleaners who may consider establishing a professional wet cleaning business or converting from a drop-off facility to an in-house dedicated wet cleaning facility insight into the associated costs.

Capital Costs

BNC invested a total of $46,900 in new wet cleaning equipment, including a washer, dryer, body form, and pants topper. Assuming a 20-year life for the equipment (based on industry standards) and a cost of capital of five percent, the annualized cost of using wet cleaning equipment is $3,761.

Performance

When BNC was a drop-off facility, all garments to be dry cleaned were sent off-site to a facility using perc. The average number of items taken off-site was about 300 per week. Over the course of the first year as a dedicated wet cleaning facility, approximately forty items were sent out for processing at another facility. However, the number of send outs decreased each month throughout the year and was zero for the last two months in our analysis.

BNC reported only having to re-do 5 items over the course of the first year as a wet cleaning facility. BNC reported no claims processed during the first year as a dedicated wet cleaning facility.

Operating Expenses

In the first 12 months of operation as a dedicated wet cleaning facility, BNC incurred costs not previously incurred as a drop-off facility. Those costs are attributed to machine maintenance and the purchase of wet cleaning detergent and spotting agents. As noted in the summary table below, the use of wet cleaning has increased operating costs in the first 12 months by an average of $215/month or $2,580 for the 12 months.

Summary of Costs/Savings

Item	Additional Costs Per Month as Dedicated Wet Cleaner
Maintenance	$32
Detergent and Spotting Agents	$183
Total:	**$215**

Resource Use

Electricity Use. Electricity is used to power both the equipment operations (laundry and wet cleaning) and store front operations (counter, racks, etc.) During the first 12 months that BNC operated as a dedicated wet cleaning facility, the electricity provided to the equipment side averaged approximately 1,334 kwH per month, and the electricity provided to the store front side average approximately 272 kwH per month. Using service and delivery charges from the study time period, this equated to $194 per month (or $2,327 annually) for the equipment side of the store and $40 per month (or $475 annually) for the store front side.

Oil Use. Oil is used at the facility to provide steam for equipment and hot water for equipment and the facility. Over the 12 months operating as a wet cleaning facility, 5,090 gallons of oil were used, averaging to approximately 424 gallons per month. This equated to $13,030 total or $1,086 per month on average.

Water Use and Sewage Discharge. Water is used at the facility in the equipment as well as for general sanitary uses. The amount of water used over 12 months as a wet cleaning facility totaled 309 (100cuft) or approximately 26 (100cuft) per month. This equates to $1,705 for 12 months or approximately $142 per month.

The amount discharged to the sewer was the same as water usage. The sewer discharge costs totaled $2,234 for 12 months or approximately $186 per month.

It should be noted that in Massachusetts, laundry or dry cleaning shops are not allowed to discharge their wastewater to a septic system without a groundwater discharge permit from the Department of Environmental Protection.

Summary of Resource Use for Wet Cleaning Facility

Item	Annual Use	Monthly Avg. Use	Annual Cost	Monthly Avg. Cost
Electricity for Equipment Side (kwH))	16,005	1,334	$2,327	$194
Electricity for Store Front Side (kwH)	3,266	272	$475	$40
Oil (gallons)	5090	424	$13,030	$1,086
Water (100cuft)	309	26	$1,705	$142
Sewer (100cuft)	309	26	$2,234	$186
Total:			**$19,771**	**$1,648**

" I am very happy to be using this equipment in my shop instead of sending clothes out to be cleaned in perc," said the owner of BNC. "I operated two perc facilities in the past, and this technology is much safer for me and my staff, my customers and the community."