

# Reducing Paper Towel Waste In SURC Restrooms Through Dyson Hand Dryer

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## Introduction

The production of paper towels contributes to deforestation and water pollution. Paper towels from hand drying in SURC bathrooms generate a significant amount of waste per day and create messy restrooms, burdening custodial staff (Figure 1, 2). Furthermore, it costs CWU hundreds of dollars a week to supply these paper towels to the SURC. This project addresses these problems by replacing paper towel dispensers and old ineffective hand dryers in first floor public SURC bathrooms with energy efficient Dyson hand dryers (Figure 3).



Figure 1: Photo of men's SURC west bathroom prior to DYSON Airblade V installation.

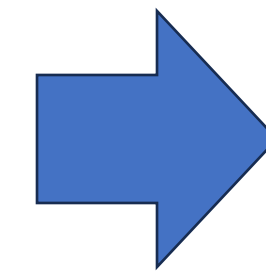


Figure 3: Photo of men's SURC east bathroom after DYSON Airblade V Pilot installation.



Figure 2: Waste generated from drying hands with paper towels. (1)

## Benefits of the Dyson Hand Dryer

### Hygienic

- Air circulates through Hepa filters capturing 99.97% of bacteria
- Touch free
- Compact design prevents bacteria growth in the unit

### Effective

- Uses 0.00333 kwh per use
- Dries hands with air speed of 420mph
- Relatively quiet

## Environmental Impact

- This project minimizes the environmental impact associated with the production of paper towels. It is estimated that it takes 17 trees and 20,000 gallons of water to produce one ton of paper towels. (2)
- Paper towels also have negative environmental impacts in consumption. Paper towels cannot be recycled, so their use contributes to landfill waste.
- Data collected by SURC maintenance from April 14- May 4, 2025, shows that public first floor bathrooms used an average of 17 rolls of paper towels a week. Multiplied over a year this accounts for 884 rolls of paper towels. Each roll weighs 3.5 pounds, which means that 3094 pounds of paper towel waste is produced a year solely from the first floor SURC restrooms. This is over 15 tons in 10 years (Figure 4).

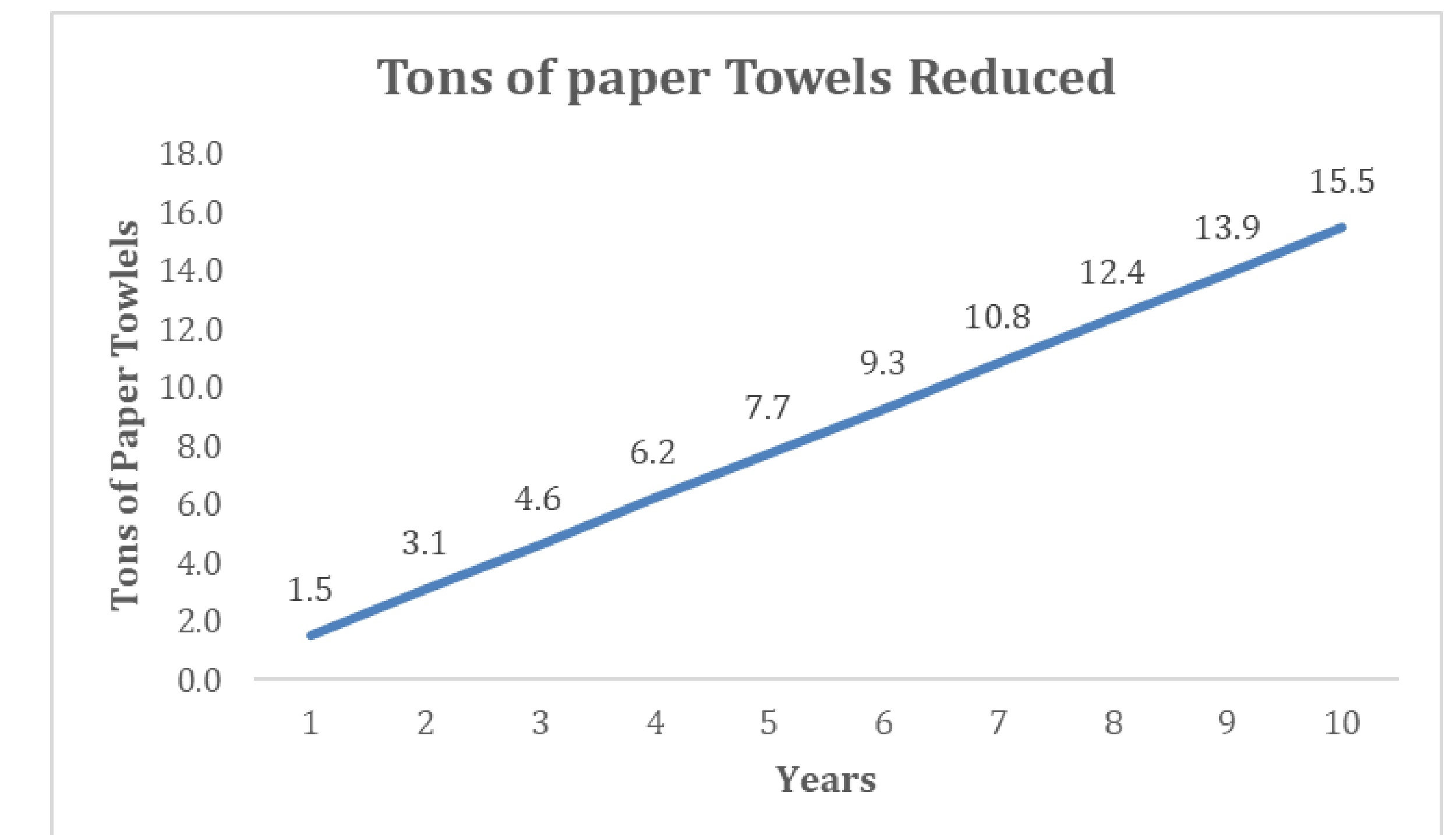


Figure 4: Graph of tons of paper towels reduced calculated based off average weekly usage of 17 rolls multiplied over 52 weeks. Data on usage was collected from April 14- May 4th by SURC maintenance. Paper towels weigh 3.5 pounds a roll and 2000 pounds are in a ton. Projections do not account for less usage over the summer or a change in student population.

## Cost Savings

- Project was funded \$14,600 by the student Green Fund.
- SURC is projected to spend \$5542.23 a year after tax on paper towels for the first floor SURC restrooms. This projection is based off the projected purchase of 884 rolls of paper towels.
- Units were estimated by SURC maintenance to cost \$31 a year in electricity. Which is a total cost of \$186 a year for first floor SURC restrooms
- Project will save the SURC \$14,600 in 2.73 years, and \$53,592 in 10 years. (Figure 5).

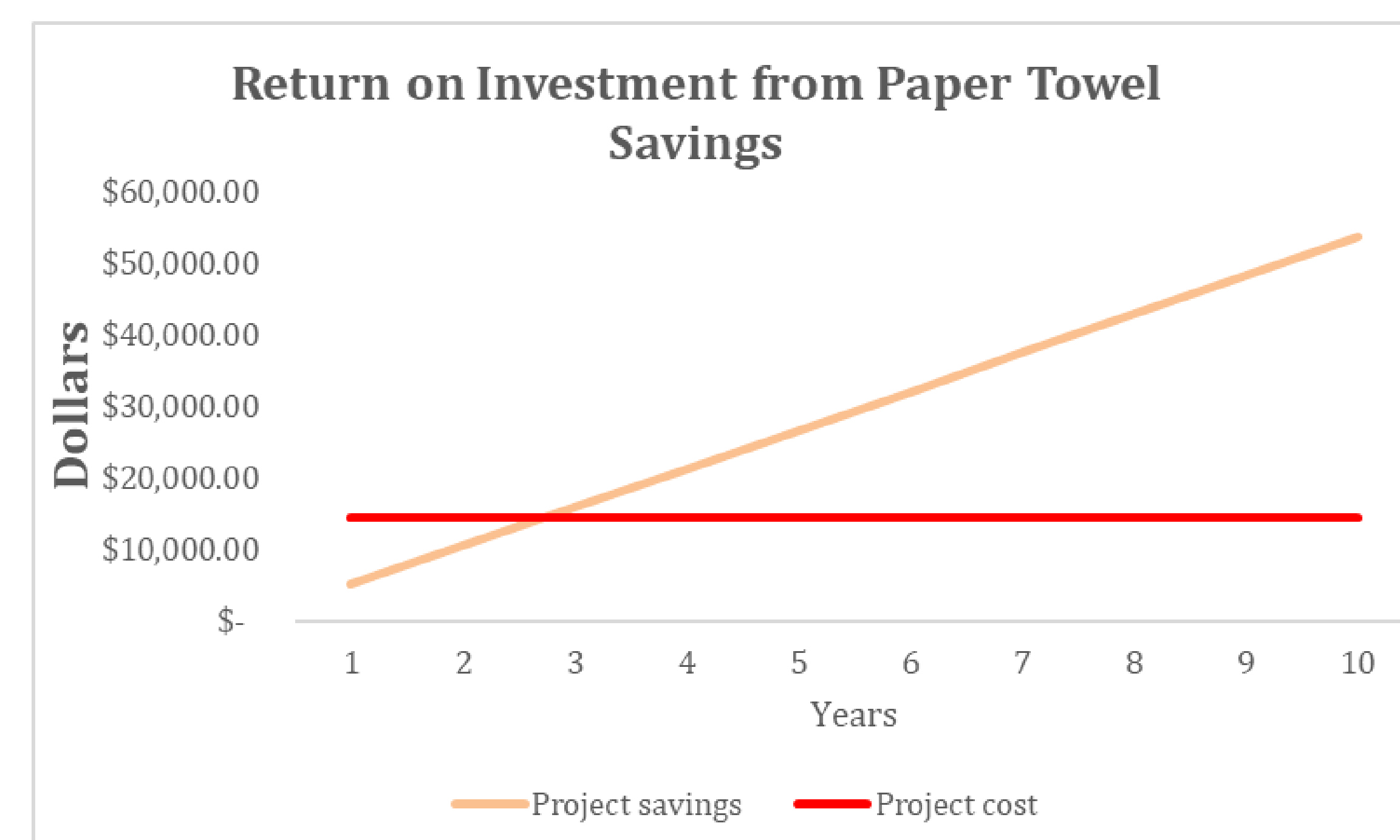


Figure 5: Graph of project return on investment calculated based off average weekly usage of 17 rolls multiplied over 52 weeks. Data on usage was collected from April 14- May 4, 2025, by SURC maintenance. Paper towels are bought in cases of 6 at \$37.62 after tax. Projections do not account for less usage over the summer or a change in student population.

## Recommendations

Paper towel usage is not only an issue in SURC bathrooms but in other areas around campus as well. There are a lot of opportunities to expand this project and install more hand dryers around campus. Priority buildings include the Library, Bistro, Northside Commons, Sue Lombard, the Village, SURC kitchen bathrooms and Residence Halls.

## UN Sustainable Development Goals:



## Acknowledgments

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## References

- (1) B, S., & S, N. (n.d.). *Paper towels: A rising source of Sacred Heart's carbon footprint*. The International. <https://isshinternational.org/8091/uncategorized/paper-towels-a-rising-source-of-sacred-hearts-carbon-footprint/>
- (2) *Paper towel facts: The dirty details of paper towels and sponges*. Cottage Care. (2023, June 3). <https://cottagecare.com/blog/dirty-details-facts-paper-towels-sponges/>