



Manayunk Brewery

On Tap: Sustainability

EGR 7110 Fund. of Sustainable Engineering

Advisor: Bill Lorenz

Team: Rebecca Backer, Andrew Jester, Marika Selzer



Project Overview

Overview

-Evaluate options for Manayunk Brewery to reduce their environmental impact while reducing long term energy and/or water costs.

Considerations

-Ability to withstand elements and use
-Financial cost over lifetime
-Maintenance
-Environmental impact over lifetime

Objectives

-Assess the potential for a variety of different sustainability measures.
-Options include solar, rainwater collection system, and porous pavement.

Analysis

Solar

- Use 90% of the flat roof for either purchase of solar panels or leasing them through Solar States.
- Analysis shows that tax credit options, ROI would be in less than 12.5 years.

Rain Harvest

- Utilize 1660 sq. ft. of sloped roof and potential 40,000 gal/year of rainwater for water reuse system.
- With Philadelphia SMIP grant, savings could be at least 193\$ a year.

Porous Pavement

- Use 8,989 sq. ft. of parking lot to collect rainwater and reduce impact of local water infrastructure.
- With 90% coverage, 1.5 ft depth, and ample storage, the savings could be between \$1,200-\$2,400 a year.

Conclusions & Recommendation

Conclusions

- The brewery contains opportunities to reduce their impact and decrease costs.
- Rainwater collection and solar are both feasible options.

Recommendations

- Work with PWD to add porous pavement and storage for rainwater collection.
- Install Solar PV on sloped roof through Solar World.

Further Study

- Conduct LCA on different options.
- Footprint reductions focused on reducing costs and improving efficiency.