



# Manayunk Brewery

On Tap: Sustainability

EGR 7110 Fund. of Sustainable Engineering

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## 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 & Recommendations

### Conclusions

- The brewery offers opportunities to reduce its 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.