

Impact of Laundry

Possible Academic Connections: Chemistry, Energy Engineering, Chemical Engineering, Business, Environmental Studies, Environmental Science and Sustainability

Recommended project length: Semester

Experiential Learning? Likely

Community Engagement? Unlikely

Remote learning possible? Yes

Connection to OHIO Sustainability & Climate Action Plan: Climate, Energy, Water, Student Life

Brief description: The purpose of this project is to find and quantify the impact of student laundry on campus sustainability, including the carbon footprint, and supply recommendations for reductions.

Project description:

Background

Ohio University students spend a great deal of time doing laundry in their residence halls. The washers and dryers are often used around the clock. While some students arrive on campus with a great deal of experience, others may not know how to start a load. What items can be washed together? How much detergent should one pour in the cap? How full do a fill the washer or dryer. Errors in any one of these areas could result in a service call.

Intuitively, washing, and drying clothes and linens uses a great deal of chemicals, energy, and water. The purpose of this project is to find and quantify the impact of student laundry on campus sustainability, including the carbon footprint, and supply recommendations for reductions. The primary goals are as follows:

Objective 1

Find and quantify the impact of student laundry on campus sustainability. Key data could include the following:

1. How many loads of laundry are done each year?
2. How many gallons of hot or cold domestic water are used in washing?
3. How much electricity (kWh) is used for washing or drying laundry?
4. How much natural gas (MBTU) to heat water or dry laundry?
5. What detergents or other chemical cleaners are used?

Objective 2

Develop low-cost recommendations for sustainable student laundry practices. Quantify possible impact wherever possible. Examples could include:

1. Supply training to new residents who may not have done laundry before.
2. Wear clothing longer before washing.
3. Reduce the use of chemical detergents.
4. Wash in cold water.
5. Line/air dry after washing.
6. Install heat recovery units on laundry rooms.

Objective 3

Technology exists to reduce or cut chemical cleaners, use renewable energy for the operation of washers and dryers, and clean grey water for reuse. Utilizing the data and information collected, develop a concept, and consider the feasibility of constructing a sustainable, Net Zero, student laundromat. Describe probable costs and benefits/limitations. Is concept worthy of further study?

Resources available to students/faculty to complete project:

- Meeting with Troy Bonte, Executive Director for Facilities Management
- Office of Sustainability referrals to Residence Life staff members
- [US EPA Safer Choice certified laundry products](#)
- Independent Study Report on Sustainable Laundry Operations at Sewanee: The University of the South

Project alignment to OHIO Sustainability & Climate Action Plan:

- [Energy](#) (goal #1 – Reduce campus and building intensity)
- [Climate](#) (goal # 1 – Reduce institutional greenhouse gas emissions)
- [Water](#) (goal #3 – Reduce potable water usage)
- [Engagement](#) (goal #2 – offer opportunities for campus members to learn about or contribute to sustainability initiatives)

Please send final project deliverables to sustainability@ohio.edu for tracking and reporting purposes.