

## **PROJECT OVERVIEW**

**Intern:** Jack Micek

**Major:** Mechanical Engineering

**School:** University of Nebraska –Lincoln



### **Company Background**

The Nebraska Energy Office (NEO) is a governmental agency with a mission to promote the efficient, economic and environmentally responsible use of energy and a vision for all Nebraskans to have reliable and affordable sources of energy that support a cleaner environment and a more secure energy future. The NEO seeks to achieve this vision by maximizing the use of traditional energy sources, providing low-cost financing to Nebraskans looking to adopt energy efficient practices, encouraging the development of renewable resources, and advising the executive and legislative branches of the state on energy policy and security.



### **Project Description**

The NEO and the University of Nebraska – Lincoln are working together to try to reduce energy use by mechanical wastewater treatment facilities in small towns with populations less than 10,000 residents across the state of Nebraska. In an effort to develop an energy usage benchmark for small mechanical wastewater treatment facilities, the team of Steven Hanna, Matt Thompson, David Hansen, Ranil Philipose, Mara Zelt, and Jack Micek collected data on 99 and visited 89 plants while seeking out potential energy efficient opportunities. Detailed assessments complete with recommendations on how to reduce energy usage were also done on the facilities in the towns of Minden, Arnold, and Ogallala.

### **Pollution Prevention Benefits**

Source reduction is the best form of pollution prevention and a reduction in the energy usage of these plants will directly result in a reduction of carbon emissions. An energy usage benchmark will identify which facilities are using more energy than they would be expected to use and future assessments will be done on these facilities to search for energy efficient opportunities.