



Pacific Aurora, LLC



**Intern:** Adam Perry

**Major:** Chemical Engineering

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### Background

Pacific Aurora, LLC, is an ethanol facility located just west of Aurora, Nebraska. It was formed in 2016, after Pacific Ethanol and the Aurora Cooperative Elevator Company (ACEC) joined to form Pacific Aurora LLC (PAL). The facility consists of ACEC's grain elevator and two ethanol plants, Aurora East and Aurora West. The plants have a combined ethanol output of 155 million gallons per year, with Aurora West contributing 110 million gallons per year and Aurora East contributing 45 million gallons per year. Each plant produces and sells ethanol, distillers grains, and corn oil.

### Project Description

The intern received assistance from company project engineers and identified several Pollution Prevention opportunities, focusing mostly on energy and water usage at Aurora West. Costs per pound of steam and condensate leaks were calculated to assist with future projects. Lighting was also evaluated at Aurora East.

### Pollution Prevention Benefits

Several recommendations were made to reduce water, natural gas, and electricity usage. The results are summarized in Table 1 below.

**Table 1.** Pollution Prevention Benefits

Assessment Recommendation	Annual Cost Savings	Annual Reduction	GHG Reduction (MTCO <sub>2</sub> e/yr)
Steam Losses	\$99,000	2.40 Million Gal Water	
Condensate Losses	\$28,800	2.15 Million Gal Water	
Electricity/Other	\$30,400	1.20 Million kWh energy (Natural Gas and Electricity)	
<b>Total</b>	<b>\$158,200</b>	<b>4.55 Million Gal Water, 1.20 Million kWh energy</b>	<b>6,420 total for all recommendations</b>