

## Project Overview

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### Project Description

The projects this summer focused on assisting agricultural producers in maximizing the efficiency of their center pivot irrigation systems. This included helping them install and utilize Watermark sensors, and performing evaluations of the entire center pivot system—the engine, pump, and sprinkler package—to find areas for improvement. A report was then composed explaining the producer’s current practices, and offering suggestions to increase efficiency. The goal of this technology and the evaluations was to reduce irrigation water and energy use.



### Pollution Prevention Benefits

Benefits of this project include a reduction in energy, fuel, and water use. Other indirect benefits are increased crop yield and reduced surface water runoff. The following reports also serve as a collection of data on the entire irrigation system, and provide a benchmark when looking at future maintenance and improvements. A goal of the reports is to spur the producer on to further investigation of efficiency improvements, and create an improved appreciation for the importance of improvements.

### Results

**Table 1: Pollution Prevention Results**

Focus Area	Total Possible Annual Savings per year	Total Possible Annual Greenhouse Gas Reduction (CO <sub>2</sub> equivalent/yr)	Total Possible Water Reduction (MG/year)
Pump and Engine Upgrades	\$1,400	5 Metric Tons	14 MG
Watermark sensors	\$40,000	624 Metric Tons	140 MG
Sprinkler Upgrades	\$65,000	uncertain	uncertain
<b>Total</b>	<b>\$106,400/year</b>	<b>629 Metric Tons/year</b>	<b>154 MG/year</b>