



expected energy usage at the upgraded WWTP, and the two low cost proposers estimate energy usage of 5,900 and 7,200 kWh per Mgal treated.

- The EPA Energy Star Portfolio Manager does not benchmark small WWTPs. The Water Environment Federation (WEF) Manual of Practice (MOP) No. 32, titled “Energy Conservation in Water and Wastewater Facilities”, Table C.4 shows the expected energy usage for advanced WWTPs of varying sizes. The information from this table corresponds well with the proposer’s estimates of between 5,900 and 7,200 kWh per Mgal treated for energy usage.

## Results

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- Low efficiency blowers will be replaced with high efficiency blowers.
- Older, poorly maintained aeration system will be replaced with a high efficiency aeration system.
- Older equipment that has outlived its service life will be replaced with newer equipment.
- All new, larger motors will be NEMA premium efficiency motors.
- We also anticipate the inclusion of a biosolids management program and technology in the project that will result in conversion of Class B biosolids to Class A on site. This will eliminate the requirement for off-site hauling and a resulting reduction in greenhouse gas emissions.

## Calculated Energy Efficiency Improvements

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- The current facility energy efficiency is shown to be approximately 12,260 kWh per Mgal treated in the table below. The upgraded facility energy efficiency is estimated by the proposed contractors to be between 5,900 and 7,200 kWh per Mgal treated.

Line No.	Fiscal Year → Metric	2010 (12 months)	2011 (12 months)	2012 (Budgeted)	Three Year Average
1	Electrical Spend	\$40,386	\$38,342	\$38,000	\$38,909
2	Energy Use (kWh)	734,000	697,000	691,000	707,000
3	Wastewater Treated (Mgal)	54.4	63.1	56.4	58.0
4	Energy Use Index (kWh/Mgal)	13,490	11,050	12,250	<b>12,260</b>

- The estimated energy saving by upgrading the existing WWTP is expected to be approximately  $(12,260 - (7,200 / 5,900) / 2) / 12,260 = 47\%$  expected energy savings.

For this high energy savings we believe our project should be a favored candidate for the available GPR funding.