

Green Energy Report Highlights

Long term financial savings

- By using the biogas energy to heat the boiler, the City of Plainwell Water Renewal Plainwell is saving approximately \$11,500 in natural gas costs and \$7,700 in biosolids application costs annually.

Increased operational efficiency

- Before the anaerobic digestion improvements were installed, the VS destruction in the anaerobic digesters averaged 0.36 lb VS/lb VS fed. After the improvements, the VS destruction increased to an average of 0.50 lb VS/lb VS fed. The volatile solids destruction and biogas generation performance improved nearly 40%.
- This means the digesters are now operating very near to the theoretical optimum. This higher efficiency translates that the digesters are working faster in the destruction/stabilization process of the biosolids. The result is more biogas generation for heating the buildings.
- Air emissions were also evaluated regarding acid rain and Green House Gas issues. The SO₂ emissions from the gas are not currently significant during the biogas combustion and are projected to remain below regulatory threshold levels until the plant reaches its full daily operating flow of 1.3 MGD
- Previously the tanks were not sealed and raw methane was able to escape causing odors and further release harmful green house gases. With the new fixed digester covers and the new Dystor cover the biogas holding capacity was increased by 30 %. Conventional tanks can not provide this feature which has increased our natural gas savings.