

Fact Sheet on Wastewater Treatment Plant Energy

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The recent rise and volatility in energy prices have impacted utility costs, significantly increasing the operating costs at wastewater treatment plants (WWTP). Many states are adopting policies to reduce/eliminate dependence on foreign oil that will certainly have an impact on the wastewater treatment operations of local communities. Some facts:

- Wastewater treatment consumes approximately 1.5% of the total electric power in the US.
- After labor, electricity is usually the second highest operating cost at WWTPs, representing 25 to 40% of the annual budgeted costs.
- WWTPs are usually the single largest energy consumers in local governments, consuming 30 to 40 percent of the total energy in some cases.
- Recent trends toward the use of ultraviolet light for disinfection and sludge dryers to produce Class A bio-solids increase the energy requirements at WWTPs.
- There is a trend for WWTPs in some parts of the country to implement biological or enhanced nutrient removal (BNR or ENR). Those plants with internal recirculation of the nitrified wastewater will encounter a benefit of reduced aeration from denitrification. Plants that require significant internal recirculation or that use other methods of denitrification may experience a net increase in power consumption.

Maintaining adequate wastewater treatment is critical to protecting human health and the environment. As indicated above, WWTPs rely heavily on energy and must have a reasonably priced source of electric power. This subject is therefore of national importance.