

Illinois TRM: Energy per Gallon Factor

Background Information to Inform Elevate
Energy's Request to Include an Energy per Gallon
Factor in the Illinois TRM



Overview

- **Basic Concept:** Water conservation measures installed on the end-user side reduce the energy needed to collect, treat, and distribute potable water and wastewater.
- **Energy per Gallon Factor:** Using guidance from Wisconsin and state-wide energy usage data from Illinois water utilities, Elevate Energy created an energy per gallon factor to capture system-wide energy savings from water conservation measures.

Water Supply Factor	Wastewater Treated Factor	IL Energy per Gallon Factor
2,571 kWh/MG	2,439 kWh/MG	5,010 kWh/MG



Status of Energy per Gallon Factor

TAC considerations:

- To date, no issues have been raised with the basic concept or with the energy per gallon factor (5,010 kWh/MG)
- One minor issue raised regarding customers who are in ComEd territory that are served by water utilities that are not ComEd customers (this can be resolved with the TAC)

TRC considerations:

- Concern about how the energy per gallon factor in the TRM impacts the TRC-test for the benefits of water-savings measures
 - ComEd has presented a plan to Navigant to address this concern
 - Initial consensus (but not final) is that it's okay to leave the TRC calculation as is



Potential New Measures/Programs

The following measures and programs could result from the addition of an energy per gallon factor in the TRM:

- Agriculture water conservation program
- Smart lawn irrigation
- Rain barrels (joint program with water utilities)
- Low-flow toilet retrofits
- Waterless urinals
- Encouraging native/low water using plants to be used in landscaping



Comments & Questions

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Appendix



Energy per Gallon Proposal

- IL TRM accounts for end-user energy savings from water conservation measures.
- IL TRM does not account for the system-wide energy savings from water conservation measures.
- Elevate Energy recommends using a single, Illinois Energy per Gallon factor of 5,010 kWh/MG to calculate the system-wide energy savings from Water Impact measures listed in the TRM.
- To create the ratio, Elevate used:
 - Available guidance from the Wisconsin PSC
 - State-wide energy usage data from water utilities in Illinois
 - National estimates of energy usage by wastewater treatment type



Illinois Energy per Gallon Factor

Water Supply Factor	Wastewater Treated Factor	IL Energy per Gallon Factor
2,571 kWh/MG	2,439 kWh/MG	5,010 kWh/MG

Water Source	kWh/MG	% of IL Water Supplied	Weighted kWh/MG
Groundwater	2,844	67%	1,905
Surface Water	2,019	33%	666
		Water Supply kWh/MG	2,571

Wastewater System Type	kWh/MG	% of IL Wastewater Treated	Weighted kWh/MG
Secondary Treatment	2,080	42%	874
Less than Secondary Treatment	2,690	56%	1,506
No discharge	2,960	2%	59
		Wastewater kWh/MG	2,439



IL TRM Measures Containing a Water Impact Calc.

Commercial and Industrial Measures	Residential Measures
4.2.3 Commercial Steam Cooker	5.1.2 ENERGY STAR® Most Efficient Clothes Washers
4.2.6 ENERGY STAR® Dishwasher	5.1.4 ENERGY STAR® Dishwasher
4.2.11 High Efficiency Pre-Rinse Spray Valve	5.4.4 Low Flow Faucet Aerators
4.3.2 Low Flow Faucet Aerators	5.4.5 Low Flow Showerheads
4.3.3 Low Flow Showerheads	5.4.8 Thermostatic Restrictor Shower Valve
4.3.4 Commercial Pool Covers	
4.3.6 Ozone Laundry	

