

US EPA ARCHIVE DOCUMENT



2009-2011 INDIANA ENERGY MANAGEMENT PILOT



Mishawaka Drinking Water Plant

Who we are

The Mishawaka municipal drinking water treatment plant/well system underwent its last major upgrade in 2002. It currently serves a population of about 47,620 using a groundwater supply drawn by a system of 3 well fields that together handles 8.0 million gallons per day (MGD) on average. The plant has a peak daily capacity of 30.0 MGD. Groundwater is finished by rapid sand filters and chemical addition and then transported via the system's high service pumps to the distribution system where elevated and ground storage is available for 10.0 million gallons of finished water.



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Electricity Usage

- 2008: 3.352 gWh
- 2009: 3.115 gWh
- 2010: 3.631 gWh
- 2011: 3.263 gWh

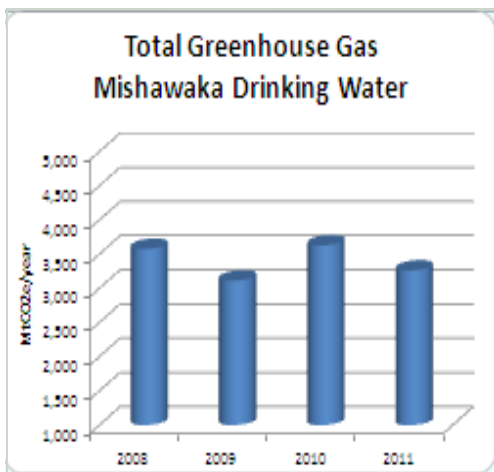
Project Success Story

For this Pilot, energy consumption at the Mishawaka Water Division is the sum of energy at well fields, the treatment plant, high service pumps, booster stations and water towers. This includes the Water Division office building.



Greenhouse gas (GHG) avoided: 315 metric tons carbon dioxide equivalent (2011 compared to a 2008 baseline).*

The City of Mishawaka has been proactive about energy efficiency and had all city departments and utilities inspected for energy-saving opportunities. Lighting was among the suggestions for the Water Division prior to 2009 and led to a project completed in the spring of 2011 to change all overhead lighting at the main Water Division office to energy-efficient fluorescent bulbs with automatic timers. The building houses 21 offices, a lunchroom, warehouse, a main garage area, maintenance areas, storage areas, locker rooms and restrooms.



The Maintenance Department noticed that the rooftop air conditioning unit at the Water Division office was not operating efficiently due to two failed compressors. So in 2011, a new air conditioner unit was installed with a seasonal energy efficiency rating of 13 to deliver better energy performance at reduced operating cost. Mishawaka Water Division plans to continue its energy efficiency efforts with improved lighting, air conditioning and pumping efficiency at booster stations and/or elevated tanks.

Greenhouse gas emissions avoided when 2008 is compared to 2011 are equivalent to



Removing 62 vehicles from the road for a year



Electricity for 39 homes for a year



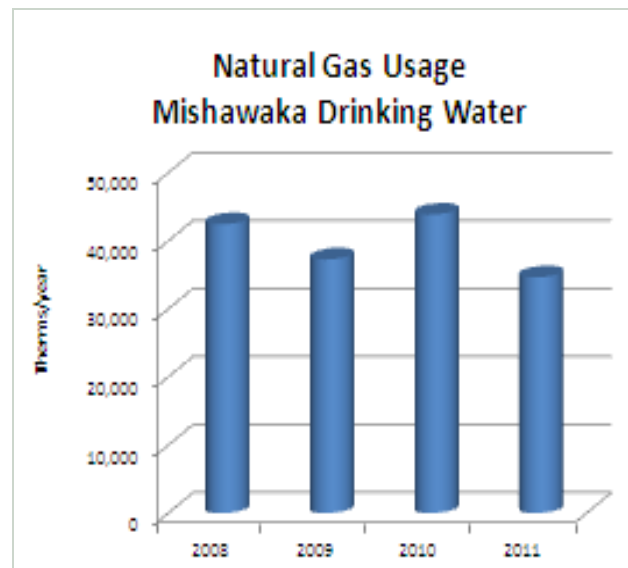
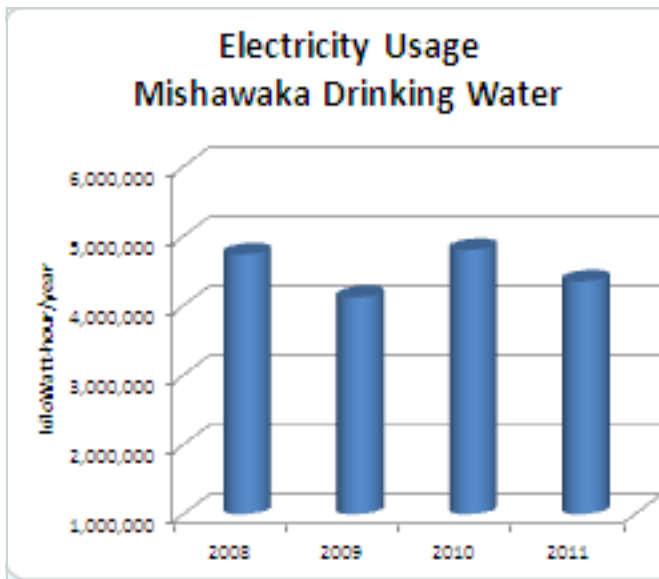
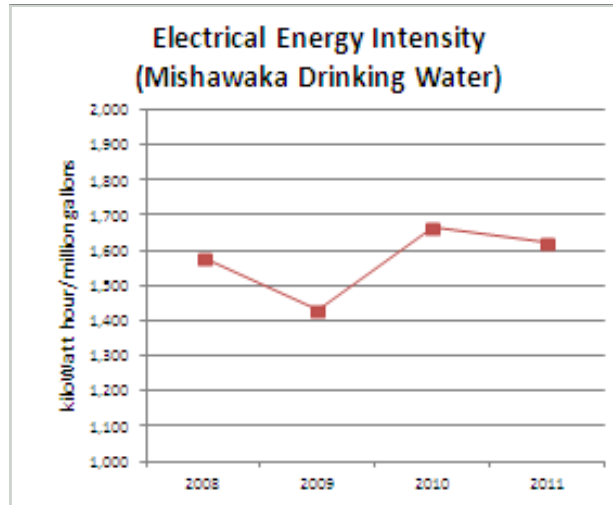
1.57 Railcars of coal



733 Barrels of Oil

Green House Gas Equivalencies calculated using USEPA calculator (<http://www.epa.gov/cleanenergy/energy-resources/calculator.html>)

Documented Results



Key Improvements

| Process | Targeted goal | Annual energy saving | Implementation cost (\$) | Annual Saving (\$) | Simple Payback (years) |
|--|--|----------------------|--------------------------|--------------------|------------------------|
| Lighting improvements in the main office building. | Reduce electrical cost by Summer 2011. | | | | |
| Replace air conditioning unit for main office building. | Reduce electrical cost by Summer 2011. | | | | |
| Lighting changes at booster stations and elevated tanks. | Reduce electrical use by 45% by May 2012. | | | | |
| Improve pumping efficiency. | Reduce energy used by pumps by 5% by October 2011. | | | | |