

# Water-Energy Nexus Utility Survey

## 1. Welcome to the Water-Energy Nexus Utility Survey!

We would appreciate your participation in this Water-Energy Nexus survey so that Illinois water utilities can better understand the relationship between water and energy. This survey was created by the Illinois Section American Water Works Association (ISAWWA) Water Efficiency Committee to learn more about the energy intensity of Illinois' water supply sources.

Energy is necessary for all water systems to function. As utilities work towards higher system efficiency, understanding the role and cost of energy from pump to faucet can be useful in short and long term planning, assessing infrastructure needs, and projecting future revenue requirements. This survey will provide basic analysis that quantifies the relationship between water and energy to assist utilities interested in increasing their energy efficiency.

The data collected through this survey will remain anonymous and will not be publicly attached to any particular utility but rather consolidated by water source. The final product of this survey will be a summary report of the aggregated data from each water source. Additionally, each participating ISAWWA utility member will receive a customized energy intensity analysis (based on their submitted survey data). This analysis will be general but informational. A utility may then choose to further examine the energy intensity of their operations with the assistance of a specialized professional.

Before starting, below is a list of information needed to complete the survey and to receive the customized energy intensity analysis. Calendar year data for 2010 (01/01/2010-12/31/2010) is requested throughout the survey to provide the most up to date and comparative analysis. However if 2010 data is not available, please use the most recent data. For each completed survey, the committee will make a donation in the name of the participant to Water for People ([www.waterforpeople.org](http://www.waterforpeople.org)).

Required information:

### Utility

- Number of service connections
- Number of residential connections
- Population served
- EPA Facility ID number

### Water

- Water Source
- Percentage of each source by use
- Total annual production in gallons
- Total annual billed/metered and accounted for water supply in gallons (billed/metered + accounted for)
- Begin and end date for information provided (2010 calendar year data requested)

### Energy

- Total annual energy consumption in kWh
- Total annual energy cost in dollars
- Total annual natural gas consumption in BTU
- Total annual natural gas cost in dollars
- Begin and end date for information provided (2010 calendar year data requested)

### Total operating expenses

- Most recent annual total operating expenses (does not include capital or depreciation expenses)
- Begin and end data for information provided (2010 calendar year data requested)

### Treatment

- Type of treatment used (examples: Coagulation, filtration, UV, Membrane, etc.)

Please note:

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- Residential connection= how your utility defines residential customers.
- Water supply and energy data should be for the same year, preferably 2010 calendar year (01/01/2010-12/31/2010). Ideally the total operating expenses information would be for the same time period. If not available, the most recent budget cycle is requested.
- The focus of the survey is water supply; therefore, we will not be including waste water in this survey.

On behalf of our committee, thank you for taking the time to fill out the survey and for your interest in energy and water efficiency. Please feel free to contact me with any questions about the survey.

Amy Talbot  
Chair, ISAWWA Water Efficiency Committee  
atalbot@cmap.illinois.gov  
312.386.8646

## 2. Utility Information

### \* 1. Please enter your number of service connections.

enter as a number (no  
commas)

### \* 2. Please enter the number of residential connections as defined by each utility.

enter as number (no  
commas)

### \* 3. Please enter the population served by utility.

enter as a number (no  
commas)

### \* 4. Enter your Facility ID number (EPA). Enter as ILXXXXXXX.

## 3. Water supply Information

Please be sure that the water supply (this section) and energy data (next section) are from the same time period. We are requesting that the data be from calendar year 2010 (01/01/2010-12/31/2010) to provide the most up to date and comparative analysis. However if there are discrepancies between the water and energy data ranges, please reflect these differences in the appropriate section.

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**\* 1. What is your water source? Select as many as appropriate.**

- Lake Michigan
- Other surface water
- Groundwater - deep
- Groundwater - shallow
- Purchased - Lake Michigan
- Purchased - Other Surface
- Purchased - Groundwater
- Other (please specify)

**\* 2. What percentage is used of each source, if one source only, please indicate 100% from that source.**

|                           | 10%                   | 20%                   | 30%                   | 40%                   | 50%                   | 60%                   | 70%                   | 80%                   | 90%                   | 100%                  |
|---------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| Lake Michigan             | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Other surface             | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Groundwater - deep        | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Groundwater - shallow     | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Purchased - Lake Michigan | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Purchased - Other Surface | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Purchased - Groundwater   | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

**\* 3. Please enter beginning date range of data for water supply section. Example if this survey data was for calendar year, 2010, please enter 01/01/2010.**

MM    DD    YYYY

please enter as     /  /

xx/xx/xxxx

**\* 4. Please enter ending date range of data for water supply section. Example if this survey data was for calendar year, 2010, please enter 12/31/2010,**

MM    DD    YYYY

please enter as     /  /

xx/xx/xxxx

**5. What is your total annual water PRODUCTION in gallons?**

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**6. What is your total annual BILLED / METERED / ACCOUNTED FOR water in gallons?  
(also referred to as authorized consumption)**

## 4. Energy

Energy is necessary for all water systems to function. As utilities work towards higher system efficiency, understanding the role and cost of energy from pump to faucet can be useful in short and long term planning, assessing infrastructure needs, and projecting future revenue requirements. The goal of the survey is to provide basic analysis that quantifies the relationship between water and energy to assist utilities interested in increasing their energy efficiency.

The information provided in this section should be for the same time period as the water supply information provided in the previous section.

**\* 1. Please enter beginning date range of data for energy section. Example if this survey data was for calendar year, 2010, please enter 01/01/2010.**

MM DD YYYY  
please enter as  /  /   
xx/xx/xxxx

**\* 2. Please enter ending date range of data for energy section. Example if this survey data was for calendar year, 2010, please enter 12/31/2010,**

MM DD YYYY  
please enter as  /  /   
xx/xx/xxxx

**\* 3. Please enter your total annual energy consumption in (kWh)**

please enter as whole   
number - no commas

**\* 4. Please enter your total annual cost of energy in \$\$\$.**

please enter as whole   
number - no commas

**\* 5. Please enter your total annual natural gas consumption in therms (BTU). If you do NOT use natural gas, please enter a zero. If you DO use natural gas but do not know the amount, please enter one (1).**

please enter as whole   
number - no commas

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**\* 6. Please enter your annual natural gas costs in \$\$\$.** If you do NOT use natural gas, please enter a zero (0). If you DO use natural gas but do not know the cost, please enter one (1).

please enter as whole  
number - no commas

## 5. Operating Expenses

**\* 1. Please enter your most recent annual total operating expenses (does not include capital or depreciation expenses) in \$\$\$\$**

please enter as whole  
number - no commas

**\* 2. Please enter beginning date range of data for operating expenses reported. Example if the operating expenses in previous question is for for calendar year, 2010, please enter 01/01/2010**

MM DD YYYY  
please enter as  
xx/xx/xxxx

 /  / 

**\* 3. Please enter ending date range of data for operating expenses reported. Example if the operating expenses in previous question is for for calendar year, 2010, please enter 12/31/2010**

MM DD YYYY  
please enter as  
xx/xx/xxxx

 /  / 

## 6. Treatment

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**\* 1. Please select the type of treatment used. Select all that apply.**

- Coagulation
- Filtration
- UV Disinfection
- Membrane
- Rapid Sand Filter
- Slow Sand Filter
- GAC
- No treatment
- Other (please specify)

## 7. Follow Up

The data collected through this survey will remain anonymous and will not be publicly attached to any particular utility but rather consolidated by water source. The final product of this survey will be a summary report of the aggregated data from each water source. Additionally, each participating ISAWWA utility member will receive a customized energy intensity analysis (based on their submitted survey data). This analysis will be general but informational. A utility may then choose to further examine the energy intensity of their operations with the assistance of a specialized professional.

**1. If there is information we should know about the data you have submitted please list it below.**

**\* 2. Would you like to receive follow up data from the survey?**

- yes
- no

**\* 3. Would you be willing to be contacted by other utilities interested in learning about your utility's energy related operations?**

- yes
- no

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## 4. Would you like to be contacted by the Water Efficiency Committee to learn more about the following topics?

|  | Yes                      | No                       | Unsure                   |
|--|--------------------------|--------------------------|--------------------------|
| Water Energy Nexus                     | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Non-Revenue Water                      | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Joining the Water Efficiency Committee | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Other                                  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Other (please specify)

## 8. Contact Information

The data collected through this survey will remain anonymous and will not be publicly attached to any particular utility but rather consolidated by water source.

**\* 1. Please enter your contact information. This information will not be published. It will be used to consolidate information received on the surveys and also for contacting you for further information.**

**Name:**

**Utility:**

**Address:**

**Address 2:**

**City/Town:**

**State:**

**ZIP:**

**Country:**

**Email Address:**

**Phone Number:**

## 9. Thank you

Thank you for your participation. If you filled out the contact information, a copy of the results of the survey will be emailed to you upon completion of the Water Energy Nexus survey.