

# Water Pricing

Energy Regulators Regional Association  
Workshop on Water Regulation  
June 12, 2013  
Budapest, Hungary



# Cost of Service Rate Making

- Traditional cost-based (rate-of-return) ratemaking for monopolies


$$\text{Total Revenues} = \text{Expenses} + \text{Return}$$

$$\text{Return} = \text{Regulatory Asset Base} \times \text{Weighted Average Cost of Capital}$$

$$\text{Expenses} = \text{Operating} + \text{Maintenance} + \text{Administrative} + \text{Depreciation} + \text{Taxes}$$

Primary Plant Category	Type of Equipment		
Intangible	Organization Costs Franchises		
Source of Supply	Water Rights LandWells		
Pumping	Land Pumping Equipment Structures and Improvements		
Water Treatment	Land Structures and Improvements Treatment Equipment		
Transmission and Distribution	Land Storage Tanks Mains	Meters	Fire Sprinkler Taps Services Hydrants
General	Land Leasehold Improvements Furniture Laboratory Equipment Communications Equipment		
			Structures Tools

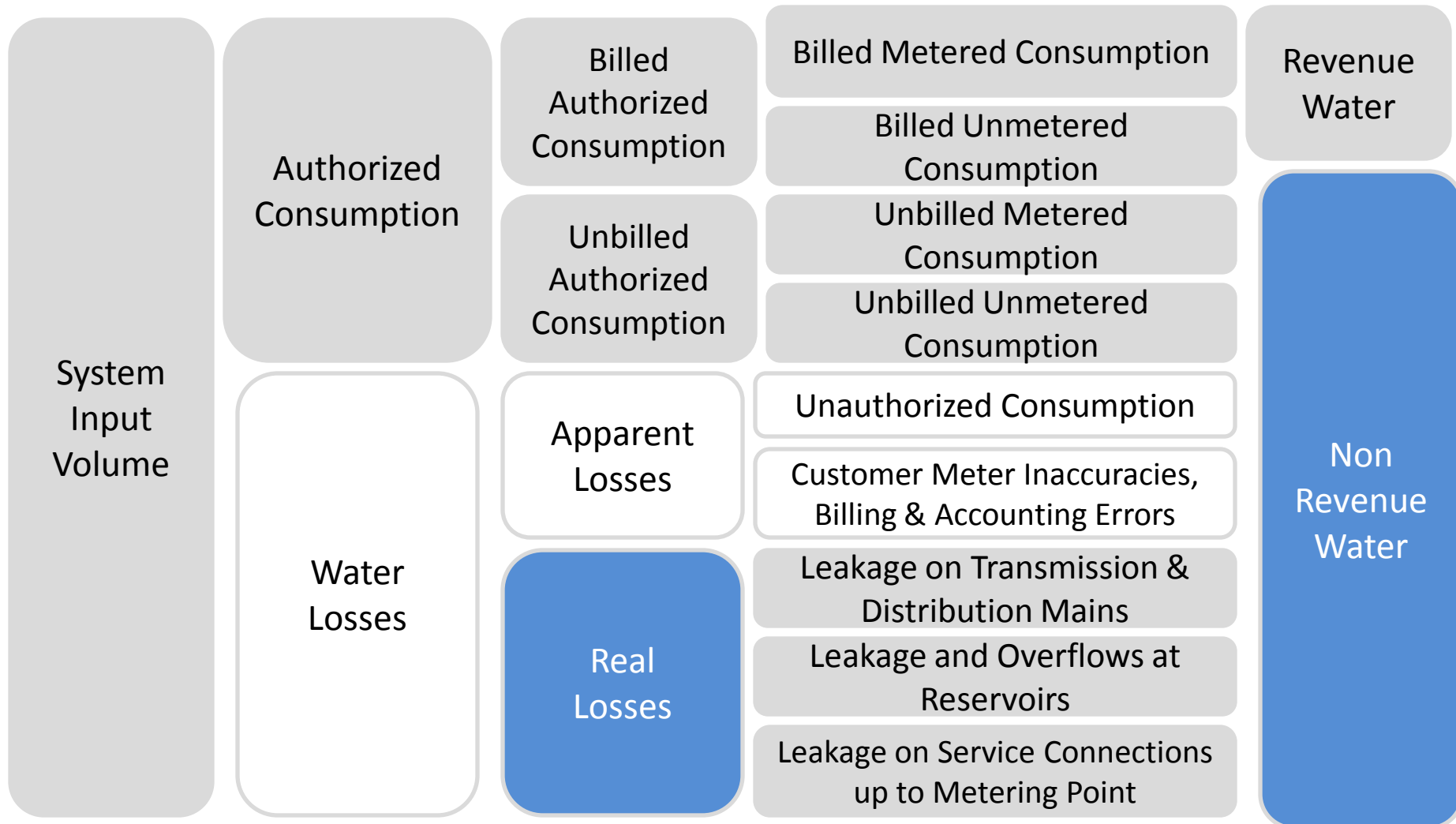
# Categories of Revenue

- Residential
  - Commercial
  - Industrial
  - Irrigation
  - Private Fire Service [Fire Protection]
  - Other Water Revenues
  - Miscellaneous
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- or by Meter Size

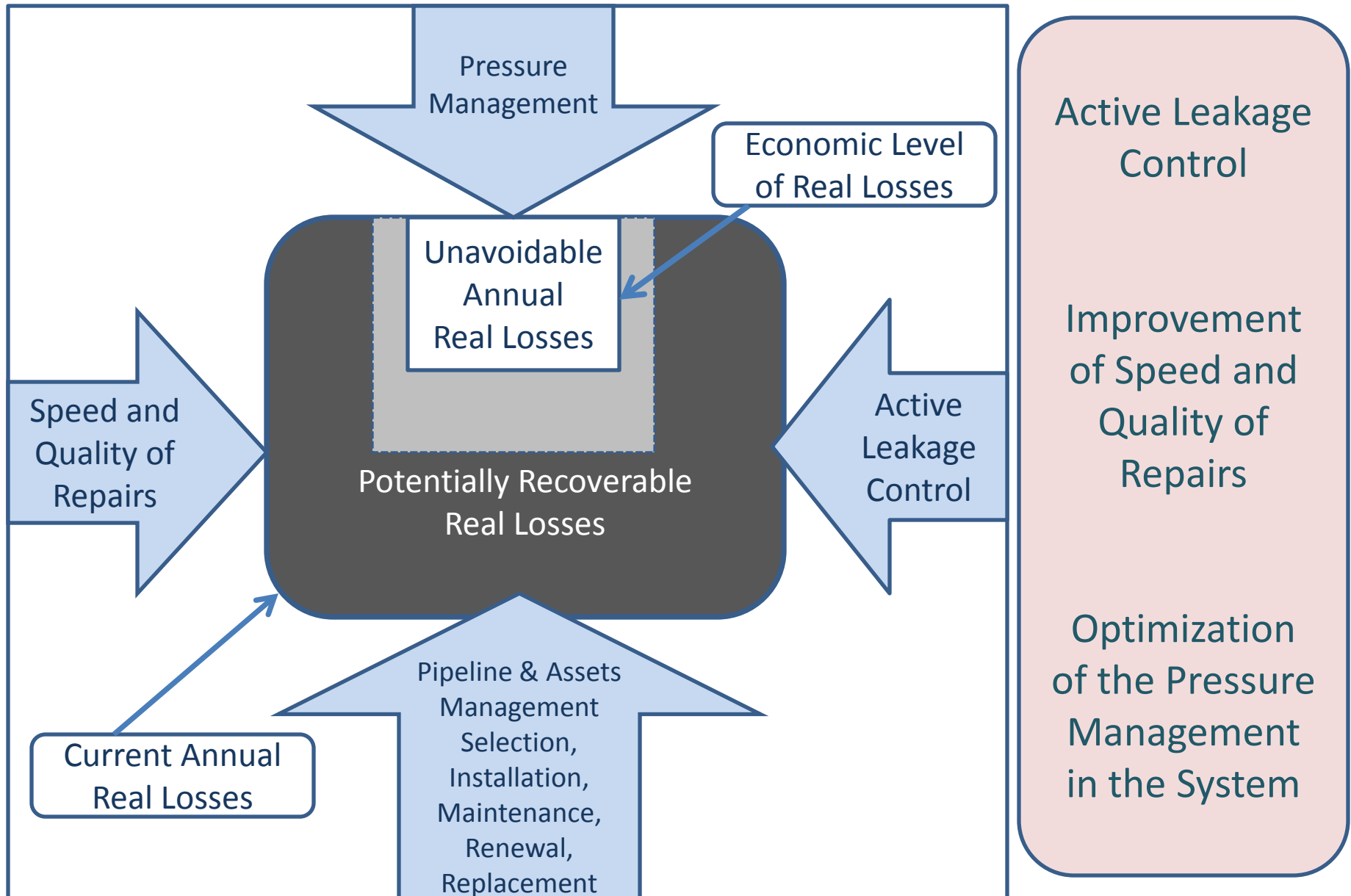
# Categories of Expenses

- Source of Supply Expense
- Pumping Expenses
- Water Treatment Expenses
- Transmission and Distribution Expenses
- Customer Accounting Expenses
- Sales Expense
- Administrative and General
- Depreciation and Amortization
- Taxes

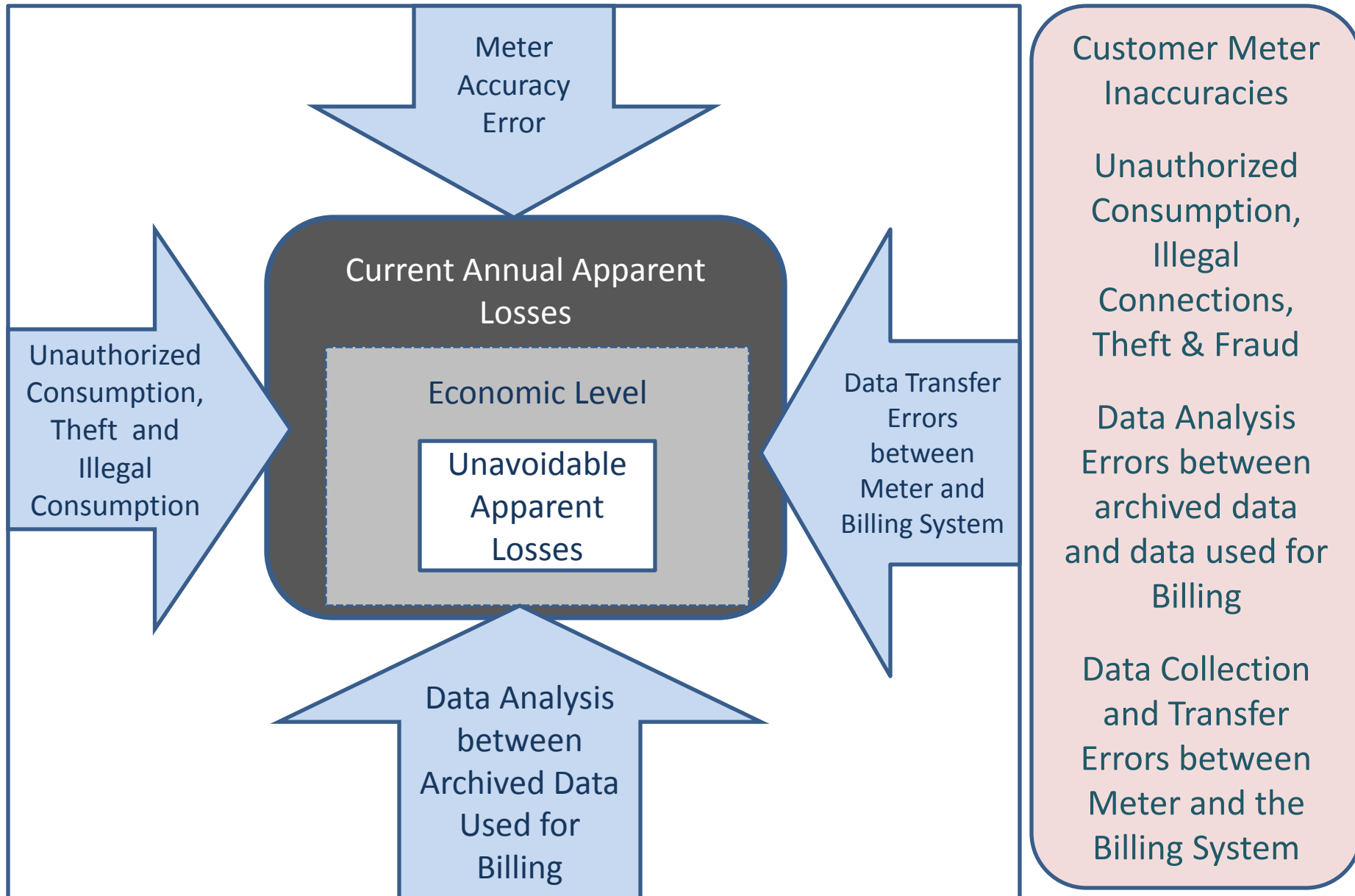
# Water Losses



# Water Losses – Real Losses

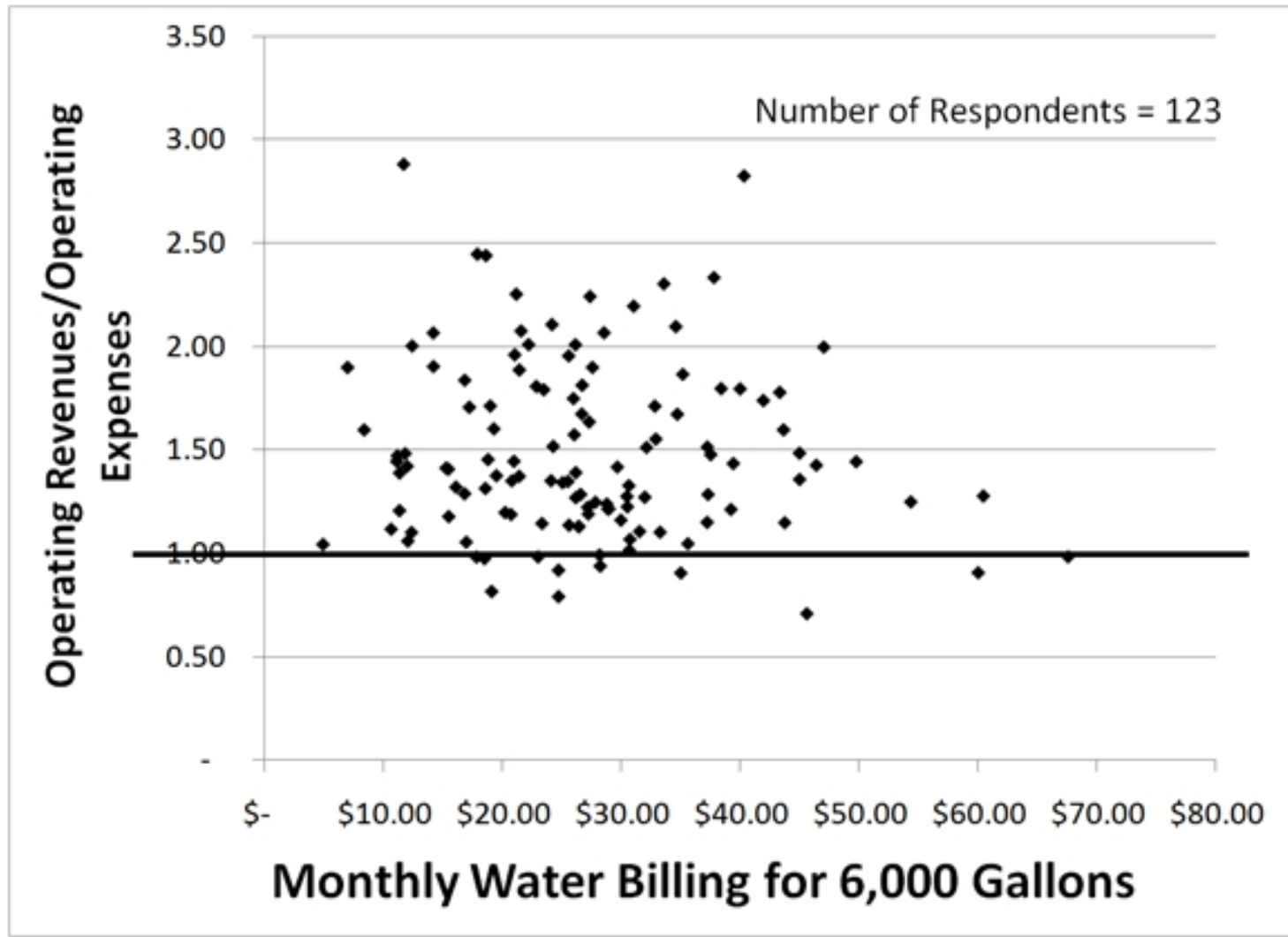


# Water Losses – Apparent Losses





# Operating Ratio (Return)



From *The Source*, <http://www.ae2snexus.com/TheSource/2011/AugustSeptember/OperatingRatios.htm>  
Data Taken from the 2010 information gathered from the 2011 North Central Regional Utility Rate Survey

# Rate Categories

- Metered or Unmetered
- Flat or Inverted Block
- By Meter Size or By Type of Customer or Both
- Vulnerable Customers
- Monthly or Quarterly
- Fixed Charge versus Volumetric Charge
- Single Set of Charges or Different Rates for Different Service Areas
- Connection Charges

# Rate Examples

- Sussex Shores Water Company (Delaware)
  - 1,855 Customers

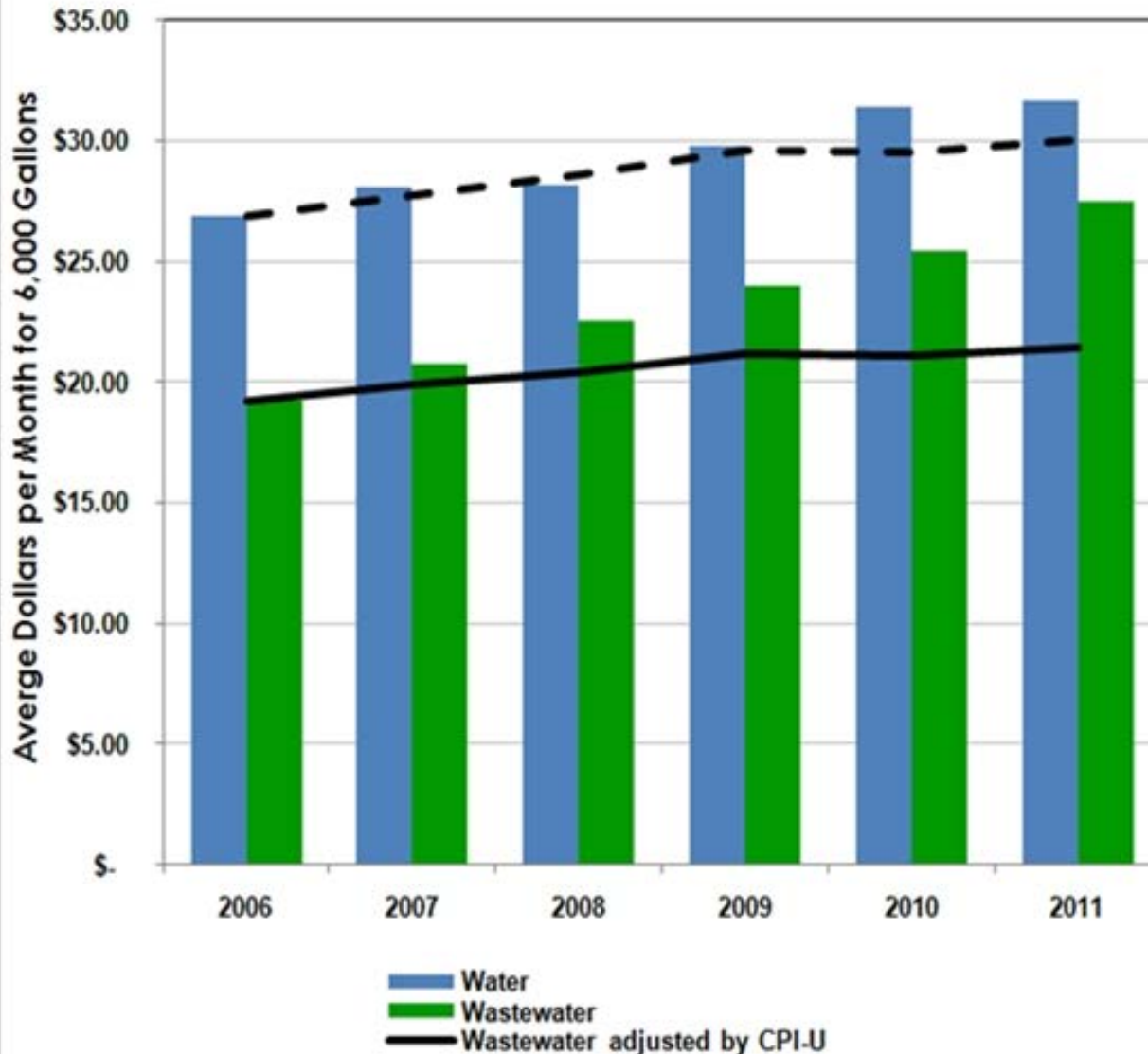
Rate Category	Quarterly Demand Charge	Usage Charge per 1,000 gallons
5/8 inch meter	\$86.24	
3/4 inch meter	\$101.92	
1 inch meter	\$168.00	
1 ½ inch meter	\$897.12	
2 inch meter	\$2,241.12	
Fire Hydrants (per hydrant)	\$128.80	
0 – 5,000 gallons		\$3.64
5,001 – 20,000 gallons		\$5.19
> 20,000 gallons		\$6.61

# Rate Examples

- Connection Charge (*Service Line and Meter Installation*)
  - ARIZONA WATER COMPANY, Western Group

	Service Line	Meter
5/8 inch Meter	\$445	\$155
1 inch Meter	\$495	\$315
2 inch Flow (Turbine) Meter	\$830	\$1,045
2 inch Compound Meter	\$830	\$1,890
Larger Meters	Actual Cost	Actual Cost

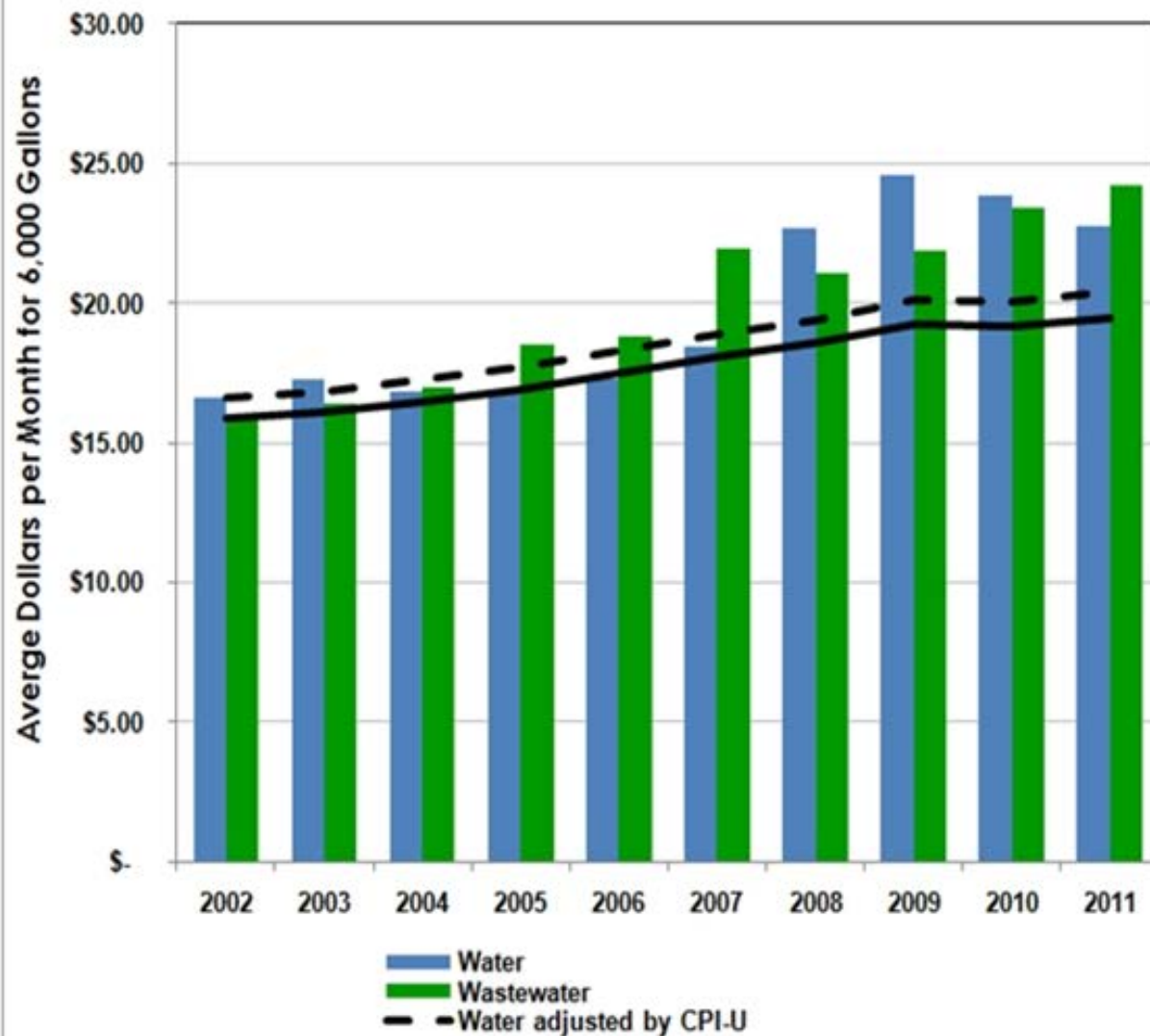
**Average Monthly Residential  
Water/Wastewater Charge**  
Survey Respondents Serving Less Than 5,000



**Smaller  
Water  
Systems**

**<5,000  
Customers**

# Average Monthly Residential Water/Wastewater Charge Metro and Non-Metro Survey Respondents Systems Serving Greater than 5,000



**Larger  
Water  
Systems  
  
>5,000  
Customers**

# Special Surcharges

- Distribution System Investment Charge
- Weather Impacts on Sales
- Conservation
- Lost Revenues Due to Declining Usage
- Expense Tracking (Purchased Water, Chemicals, etc.)

# Special Surcharges

- Distribution System Investment Charge
  - Depreciation and Pre-Tax Return
    - Cap on the rate
    - Not allowed if earnings exceed authorized return
    - Regulatory audits
  - Arguments of the Providers
    - Allows for rate increases for non-revenue producing investments to replace aging infrastructure
    - More efficient and timely investment of capital
    - Significant progress in replacing aging infrastructure
    - Enhanced service quality
    - Reduction of water lost through leaks
    - Avoidance of rate shock (gradual increases)
    - Reduce number of base rate cases (which can be expensive)



# Other Considerations

- Indiana Utility Regulatory Commission
  - Expedited Procedures for Rate Indexing for Small Water Companies between General Rate Reviews
    - < 3,000 Customers
    - Cost Index applied to operating expenses
      - Excluding debt service, depreciation, return, purchased water
      - Separate pass through for purchased water
    - Not to exceed 7.5% / year
    - Certain number of elective items must be accomplished as part of the process

# Other Considerations

- Sample of Elective Items
  - Provide an *Asset Management Plan* prepared and updated within 3 years
  - Develop or provide existing *Standard Operating Procedures*
  - Complete *Security Vulnerability Assessment and Emergency Response Plan*
  - Complete and document routine maintenance
  - Develop or provide existing map of utility system assets
  - Provide a system *Master Plan* that has been prepared or updated within the last 5 years
  - Maintain lost water below 12% for the most recent 12 month period

# Other Considerations

- Sample of Elective Items
  - Conduct a leak / loss survey in the prior year for a system with losses greater than 15%
  - Reduce lost water by 20% compared to water loss from the prior years
  - Provide customers, at least annually, educational material concerning the wise use of water
  - Develop or provide existing information that supports the existence of written financial policies and procedures
  - Develop or provide an existing Business Plan / Strategic Plan
  - Improve 85% of the performance measures by 10% over a 3 year period without decreasing performance for the remaining measures

# Contact Information

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National Geographic Photo