Thinking Like a CEO: Running a Water Utility as a Business

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Drinking Water 1-2-3 Academy
Introduction:

The state of our infrastructure

- Regional needs
- Asset Management
- The business case

Chicago, Montrose/Honore
The municipality as a **BUSINESS UTILITY**

- **Municipal Services**
  - Police, Fire, Community Development, etc.

- **Municipal GOODS:**
  - Operation of a production facility (Value added)
  - Delivery of goods to consumer
  - Purchase Agreement
  - Measurement of goods delivered
  - Payment

- **Municipal Goods** are converted into products with additional **value added**.

- Correlation exists to private utilities
Water Infrastructure Condition

- **ASCE Analysis** (American Society of Civil Engineers)
  - 240,000 water main breaks annually
  - Replacement cost exceeds $1Trillion
  - 2017 “D” rating

- 22 billion gallons of Lake Michigan is leaked annually ($64M – $124M loss)

- Many municipalities with groundwater sources exceed 10% water loss.

- Watermain breaks impact other services (GMP)
  - transportation,
  - emergency access, and
  - Businesses (restaurants, hotels, manufacturing, etc.)
Asset Management

- Water infrastructure is the **asset**
  - Production: wells/treatment plant
  - Delivery: distribution system/pipes
  - Measurement: water meters

- Water infrastructure is also the **liability**
  - Depreciation
  - Replacement Cost

- How do **private industries** account for assets?
- How would the **market respond** if the private utilities managed assets like many municipalities?
Why it matters - Delivery Failure

- **Uncollected Revenue (10%+)**
  - Under-registering meters
  - Water leaks
  - Watermain breaks

- **Unnecessary Expenditures**
  - Power/Energy
  - Chemicals
  - Maintenance Costs

- **Mismanaged Raw Materials**
  - Groundwater depletion without delivery
## Life-cycle Costs – Not a Mystery

<table>
<thead>
<tr>
<th>COMPONENT</th>
<th>USEFUL LIFE (YEARS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reservoirs and dams</td>
<td>50–80</td>
</tr>
<tr>
<td>Treatment plants—concrete structures</td>
<td>60–70</td>
</tr>
<tr>
<td>Treatment plants—mechanical and electrical</td>
<td>15–25</td>
</tr>
<tr>
<td>Trunk mains</td>
<td>65–95</td>
</tr>
<tr>
<td>Pumping stations—concrete structures</td>
<td>60–70</td>
</tr>
<tr>
<td>Pumping stations—mechanical and electrical</td>
<td>25</td>
</tr>
<tr>
<td>Distribution</td>
<td>60–95</td>
</tr>
</tbody>
</table>

**Source** EPA (2002, table 2-1).
What will the CEO do?

- Quantify Losses
  - AWWA M36 Water Audit
  - Leak Detection
  - Meter testing

- Compute non-revenue water

- Account for both assets and liability

- Fund for infrastructure replacement
Thank You!

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95% of Americans think it's important to improve and modernize water & wastewater systems.
The Value of Water National Poll, 2016