DISTRICT ENERGY SYSTEM INFRASTRUCTURE MAINTENANCE AND MANAGEMENT

The Nexus of Budgets, Staff and Knowledge

Presented by Albert J. Gilewicz IDEA June 2019
Northern Iowa – 09/10/18 : One Fatality
NEW YORK CITY

Fashion District:
07/19/18: No Fatalities

Midtown:
07/19/07: One Fatality
How Did We Get Here

Lack of Understanding
• of the true value of district energy systems

Lack of Budget Trust
• in staffing, training, recurring and CapEx

Lack of Long Term Plan
• that defines future needs and purposes

Yields Lack of Investment  ASCE Grade of D+
2017 Infrastructure Report Card – Energy
The Color of Money

- Not all money comes from the same source.
  *Recurring, capital, bonds, loans, grants*

- Not all money is treated the same.
  *Restricted use, defined projects, time sensitive*

- Not all money rolls up into one budget line.
  *Salary and wages versus bond and Cap Ex*

Best of Class – All money is aligned for mutual gain
Budgetary Perspectives

• A year end surplus does define success. 
  *If you did not spend the money why ask for it?*

• Learn from the past and plan for the future. 
  *Times have changed and best be prepared.*

• Never, ever say “We’ve always done it that way.” 
  *Focus on the future not the past.*

• Different plans are required for different budgets. 
  *i.e. Staffing, recurring maintenance and Cap Ex*

  Budget Integration is Essential
Budgeting For Staff

Vacant but Funded Positions
• When was the position last filled?
• Is it relevant to today’s O&M needs?
• Does the position description fit the actual job?
• Does the overtime budget hide the staff needs?

Taxes, insurances, fringe benefits, and other personnel cost should not be the determining factor in filling vacant positions.
Budgeting Training Programs Through Attrition

• Define the benefits of additional training.
• Less time to complete tasks?
• More tasks assignable to one person?
• Less overtime required to complete core tasks?
• Improved job site safety/fewer injuries?

A well trained knowledgeable work force has higher morale, greater concern for safety, capable of sharing knowledge, and takes greater pride in the work completed.
Mind the GAAP ……Capital Expenditures

- Budget for recurring O&M (Minor Maintenance)
- Budget for annual R&R (Major Maintenance)
- Budget for infrastructure
- Budget for bond/special project funding

The GAAP definition should not dictate the need for funding but simply the accounting of how the money is recorded in financial systems.

“What do you care where the money comes from as long as I give you the money?”
Raw Energy Procurement And Utilization

- The value of hedging – layers, strips, annual, multi-year, long term contracts
- Risk avoidance and budget certitude
- Asset dispatching
- Energy use optimization
- Profitability

Your end consumer has a vested interest in all of your aspects of raw energy procurement and utilization.

Your end consumer can negatively impact all of your aspects of raw energy utilization.
Outsourcing

Know When To  
<table>
<thead>
<tr>
<th>Specialty skills required?</th>
<th>Hold</th>
<th>or</th>
<th>Fold</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td></td>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td>Specialty tools required?</td>
<td>No</td>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td>Frequency of Work?</td>
<td>High</td>
<td></td>
<td>Low</td>
</tr>
<tr>
<td>Expensive/external training req’d?</td>
<td>No</td>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td>Redundant equipment available?</td>
<td>No</td>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td>Qualified Contractor availability?</td>
<td>No</td>
<td></td>
<td>Yes</td>
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</tbody>
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Outsourcing is not necessarily the lowest cost. Additionally, hidden intangible costs include higher staff turnover, lower morale, and lower productivity of existing staff that may offset all savings.
Nexus
1. Connection, Link
2. A connected group or series
3. Center, Focus

def. by Merriam–Webster

District Energy
1. Piping connections/links
2. A connected group or series of buildings
3. A central plant/focus of energy supply

By definition district energy systems are a nexus. All budgets, staffing, training, Cap Ex, raw energy, and outsourcing are components of the district energy nexus and integral to success.
Key Stakeholders in the District Energy Nexus:

- Senior Leadership
- Financial Management
- Human Resources
- Training Departments
- Directors
- Managers
- Supervisors
- Crew Chiefs
- Front Line Staff

Leadership, Mission, Vision, Translation, Transparency
Thank You