

**DISTRICT ENERGY SYSTEM
INFRASTRUCTURE MAINTENANCE
AND
MANAGEMENT**

The Nexus of Budgets, Staff and Knowledge

Presented by
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Northern Iowa – 09/10/18 : One Fatality



Figure 2: The location of the 2" drain and the failed cap. (All insulation has been removed as part of the investigation.)



Figure 3: The failed cap after it had been removed from the steam pipe.

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 GAAPCapital 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

<u>Know When To</u>	<u>Hold</u>	<u>or</u>	<u>Fold</u>
Specialty skills required?	No		Yes
Specialty tools required?	No		Yes
Frequency of Work?	High		Low
Expensive/external training req'd?	No		Yes
Redundant equipment available?	No		Yes
Qualified Contractor availability?	No		Yes

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

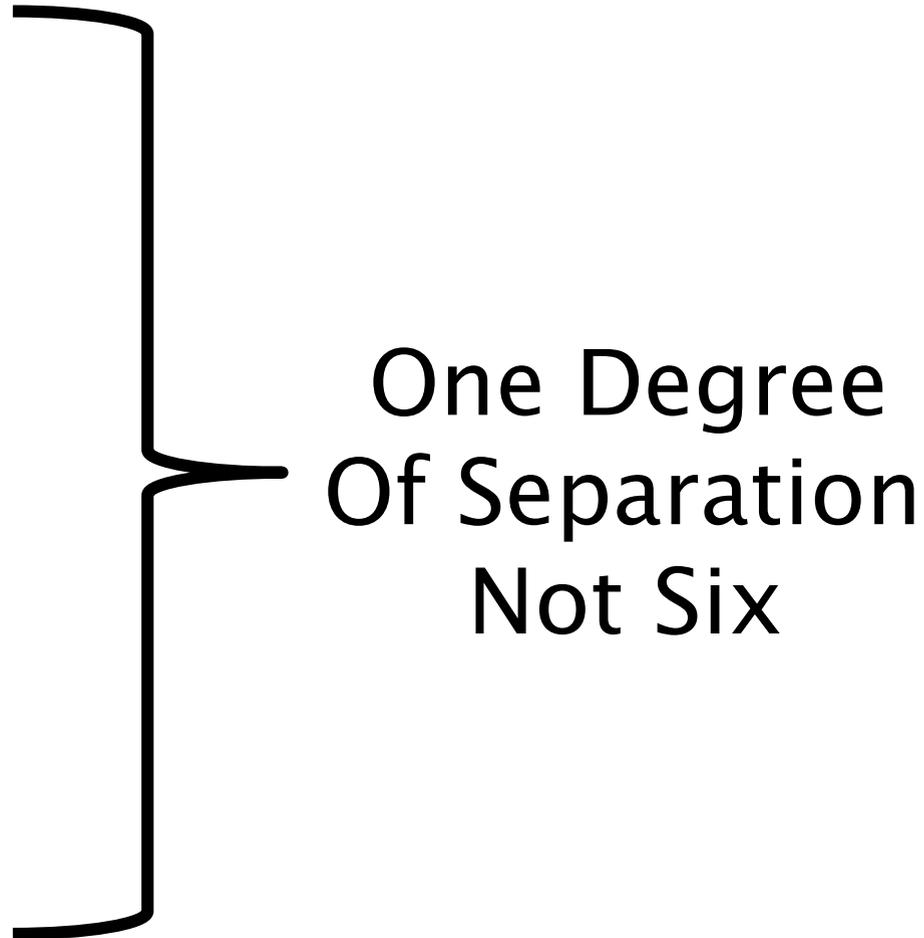
District Energy

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

