

# **Community-Based Energy Planning Financing and Business Structures**

# Organizational Challenges

- Constrained capital budgets
- Not the core business of the owner/developer
- Dynamic customer needs
- Non-rated customers



# Financing Structure Challenges

- Bridge capital from feasibility to financing
- Use of public funds for private use
- At-risk capital with expected returns
- Off-balance sheet transactions



# Case Studies

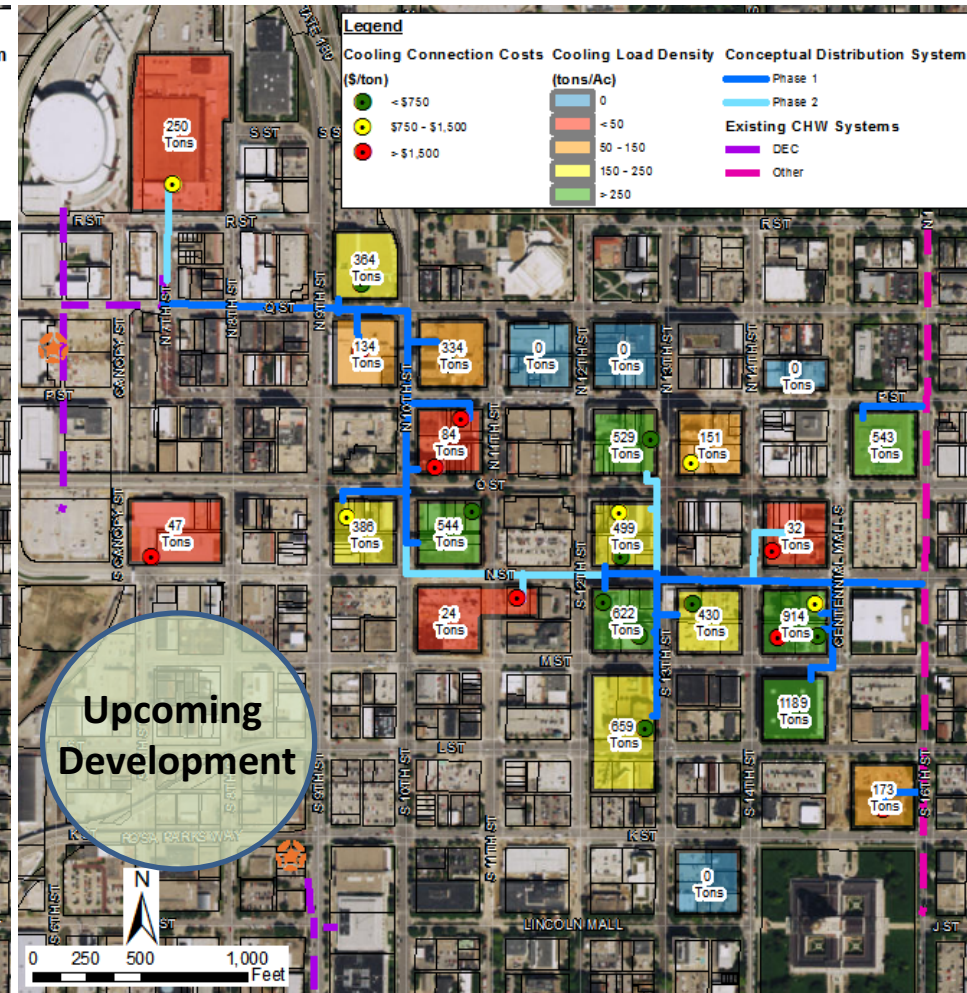
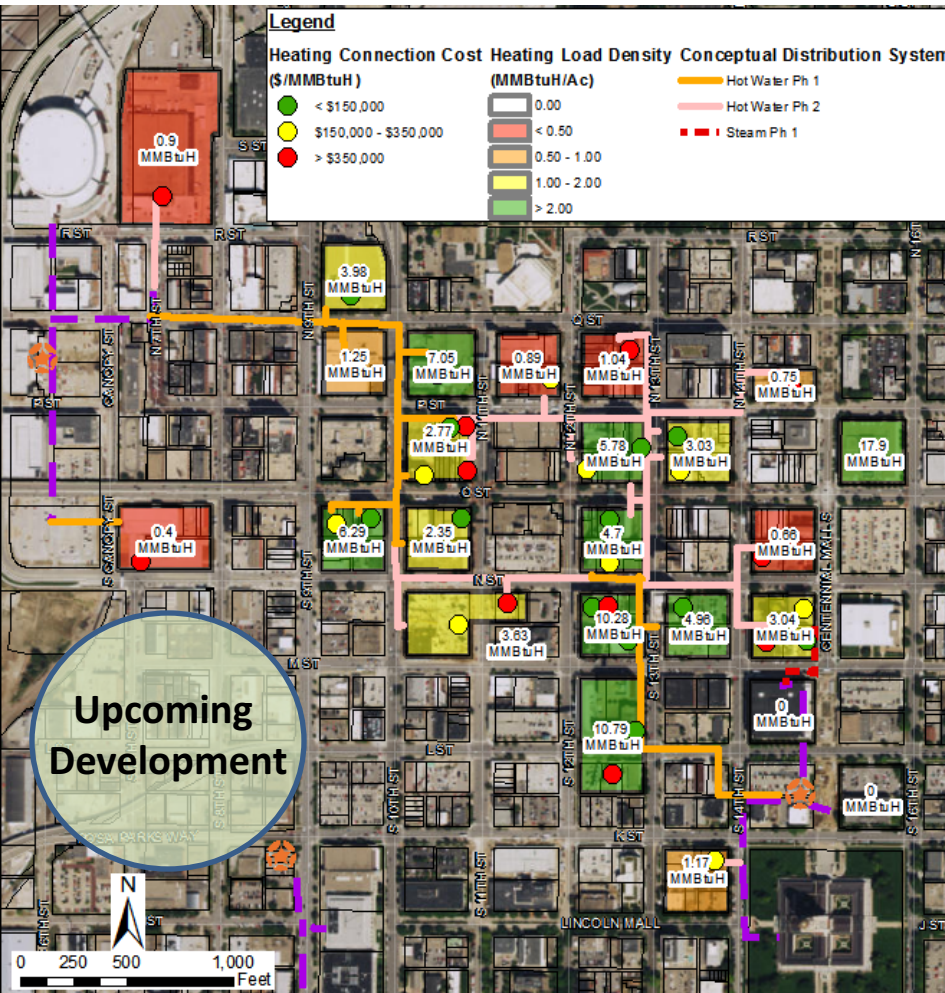
# District Energy Corporation

## Advancing District Energy in Lincoln, NE





# DEC Growth Opportunities



# DEC Organizational Constraints

- Restrictions allow service only to governmental entities
- System ownership
- Written consent required to serve private customers
- Existing tax exempt bonds restricting private use to 10% of output



# Factors To Consider

- Changing governing documents
- Tax-exempt vs. taxable financing
- Maintaining a high bond rating
- Risk appetite for current stakeholders
- Demand charge impact for current customers





# DEC Organizational Scenarios

- **Scenario 1** – Agreement with a public (governmental) entity (*new or existing*)
- **Scenario 2** – DEC as a “traditional” utility with tax-exempt debt
- **Scenario 3** – DEC as a “traditional” utility with taxable debt
- **Scenario 4** – Retain current structure (within 10% private use limit)

# DEC Organizational Scenarios

## Scenario 1 – Agreement with a public entity

**Description:** Public entity is the purchaser of excess DEC capacity. Customers (public/private) receive service based on the public entity's utility rate schedule

- **Advantages**

- Maintains DEC tax exempt financing capability
- Take or pay contract for DEC
- Public entity holds credit risk

- **Disadvantages**

- Interface with an additional governing body
- Loss of direct control over customer outreach and growth strategies

# DEC Organizational Scenarios

## Scenario 2 – DEC as a Traditional Utility, Tax-Exempt Debt

**Description:** DEC adds utility service to private customers by restructuring governing documents, rate setting, and financing methods

- **Advantages**
  - Continued ability to issue tax-exempt debt
  - No long-term take or pay contracts utilized
- **Disadvantages**
  - Customers have other heating and cooling options
  - Small customer base
  - Bond rating could be affected by creditworthiness of private customers

# DEC Organizational Scenarios

## Scenario 3 – DEC as a Traditional Utility, Taxable Debt

**Description** - Issue taxable debt for new needs and refund existing bonds, enter into long term take or pay contracts, use Local District Heating & Cooling (LDHC) tax-exempt bonds for distribution piping

- **Advantages**

- Customers fully obligated to pay bonds, lowering DEC risk
- Take or pay contracts

- **Disadvantages**

- Potentially higher cost of issuing and retiring debt
- Small scale customer base
- Bond rating could be affected by creditworthiness of private customers
- Take or pay contracts may minimize growth opportunities



# DEC Organizational Scenarios

## Scenario 4 – Retain Current Structure

**Description:** New private customer consumption is limited to 10% of the maximum possible output of the generating facilities, over the life of the debt

- **Advantages**

- Pipelines could be funded with LDHC bonds to lessen private use impact related to debt
- Take or pay contracts could be utilized

- **Disadvantages**

- Limited to 10% private use of existing facilities
- Administrative challenges balancing private use and customers on utility rate schedules
- Bond rating could be affected by creditworthiness of private customers

# Structuring For Growth

- Remove organizational constraints
- Prepare the business operations for growth
  - Energy service agreement
  - Energy rate strategies
  - Reallocation of demand charges
  - Customer service strategy
- Growth within the 10% constraint
- Determine optimal financing strategy

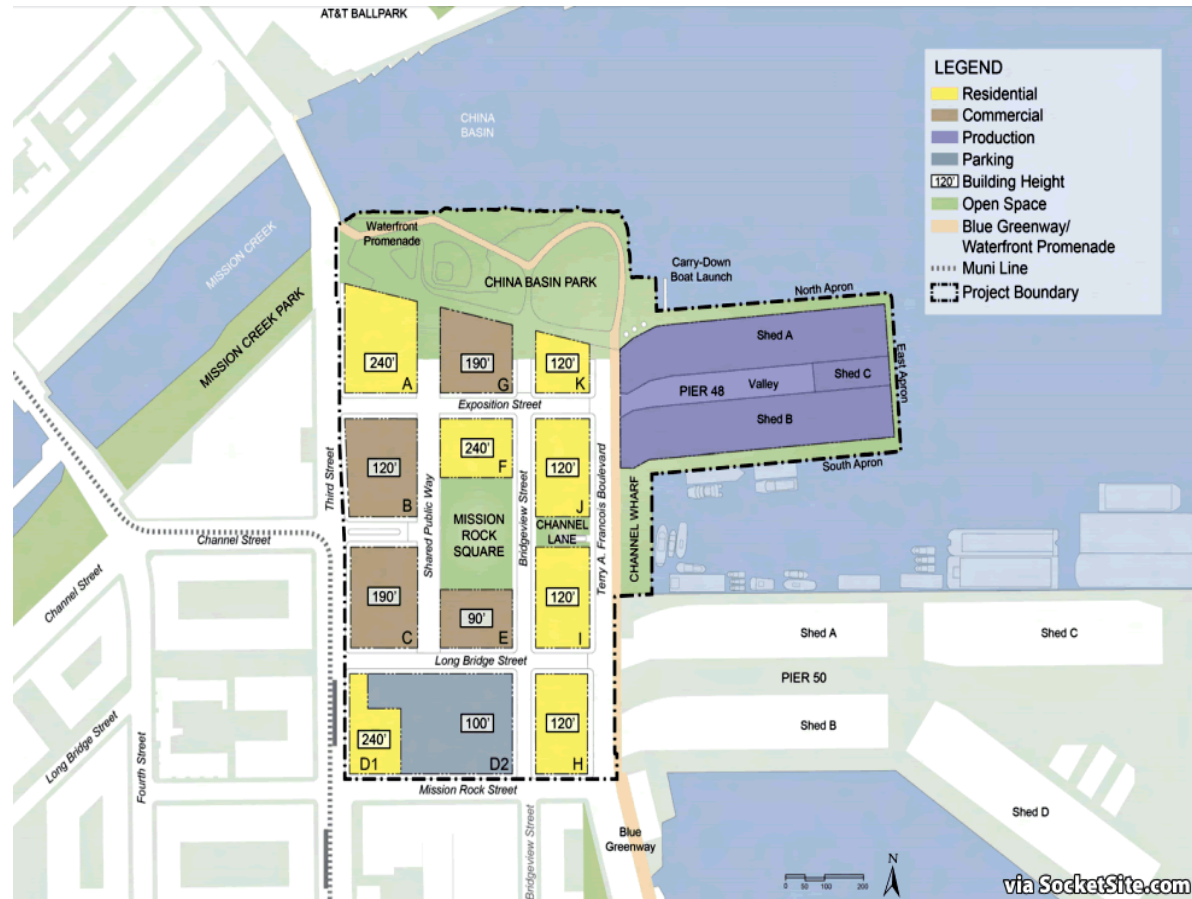


# District Energy at Mission Rock San Francisco, CA



# Mission Rock Development

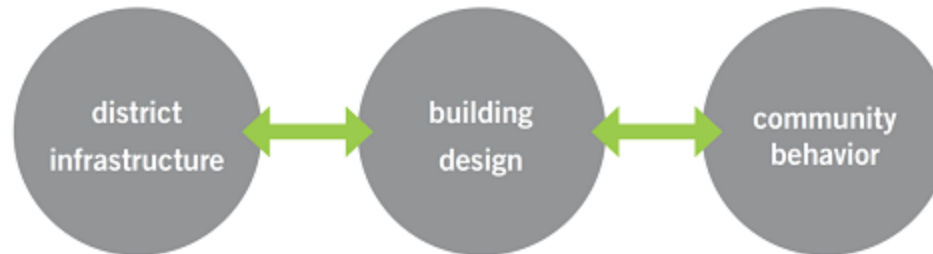
- 28-acre site owned by the SF Port Authority
- 3.5 million square feet of mixed-use development
- San Francisco Giants: Master Developer
- Ever-Green Energy: developer, operator, and manager of the district energy system





# Mission Rock Development Goals

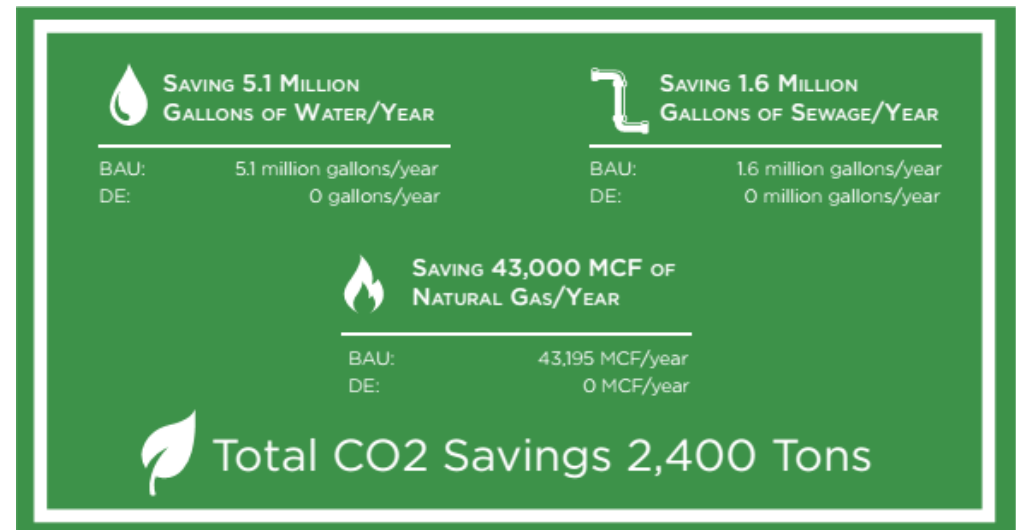
## ECODISTRICT GOALS



ENERGY	WATER	WASTE	TRANSPORTATION
<b>20-26% better than ASHRAE 90.1-2010</b> <ul style="list-style-type: none"> <li>Central Energy Plant for heating, cooling, and hot water</li> <li>Tenant sub-metering and real time information</li> <li>Tenant commitments to reduced plug-loads</li> </ul>	<b>Zero potable water use for non-potable applications</b> <ul style="list-style-type: none"> <li>33-47% Reduction in GHG emissions</li> <li>Water efficient fixtures</li> <li>Centralized graywater system</li> <li>Potential for bay source cooling</li> </ul>	<b>25-50% increase in waste diversion over SF baseline</b> <ul style="list-style-type: none"> <li>User education to increase waste separation</li> <li>Source control programs to limit sale of landfill materials</li> </ul>	<b>7% Reduction in carbon emissions from automobile use</b> <ul style="list-style-type: none"> <li>Improved transit services</li> <li>Improved bike facilities and network</li> <li>Improved walking connections and experience</li> <li>TMPs</li> </ul>

# Mission Rock DES

- Load defined
  - 21 MMBtu/hour
  - 2,900 tons
- Energy supply options
  - Bay water energy capture
  - Wastewater energy capture
- Targeting development approvals by Fall 2017



# Organizational Options for Implementation

- Non-profit business
- California Public Benefit Corporation
- For-profit business



# Non-Profit Business

- **Pros**

- Cost-based rates
- Should be able to take advantage of low-cost, tax-exempt debt
- Board level participation for key stakeholder groups

- **Cons**

- Requires IRS approval
- Higher initial formation costs
- Less flexibility for future expansion
- Increased oversight from the IRS



# California Public Benefit Corporation

- **Pros**

- Board-level participation for stakeholder groups
- Similar to non-profit, cost-based rates

- **Cons**

- Increased regulation to maintain CPBC status
- Increases the cost of service to end users

# For-Profit Business

- **Pros**
  - Encourages third-party equity investment
- **Cons**
  - Decreased involvement from stakeholders
  - Increases the cost of service to Mission Rock customers

# Types of Credit Enhancement/Support

- End user/off-take contract guarantees
- Single off-taker between Mission Rock DES and its customers
- Provide senior debt financing for all or a portion of the project
- Provide DES debt guarantee
- Provide subordinated debt financing

# DES Financing Options

## Estimated Revenue Bond Interest Rates By Bond Type and S&P Rating

Bond Type	A-	BBB-	Non-Rated
Tax-Exempt 501c3	3.75%	4.25%	5.50%
Tax-Exempt (AMT)	4.00%	4.50%	6.00%
Taxable	4.50%	5.50%	7.25%
Subordinated Debt	8.00%	10.00%	12.00%

# Proposed Financing Model

## Credit Enhancement/Support by SF Port

- 100% debt financing
- ~2/3 of the annual cost of the DES is debt service
- Customers' annual energy costs reduced ~30%
- 250,000 square foot building saving ~\$200,000 per year
- Enhanced land value
- Potential revenue to SF Port for credit enhancement/support

# Summary



*One size doesn't fit all*



# Questions?

**Michael Ahern**

**SVP, System Development**

**[michael.ahern@ever-greenenergy.com](mailto:michael.ahern@ever-greenenergy.com)**

651.248.0618