BUILDING PARTNERSHIPS TO MOVE DISTRICT ENERGY FORWARD

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Christie Baumel, City of Seattle
Michelle McLarty, Corix Utilities
City District Energy Planning

City Primary Drivers:
- Environmental / GHG
- Local energy capture

Focus on near-term opportunities and leverage points with existing system

Status: some waste heat recovery projects are underway, and can be leveraged.
The Opportunity

- Major redevelopment planned for near-downtown neighborhoods
- Interested developers
- Lots of waste heat
- City incentives and support

Key Alternative Energy Sources
1. Data Center
2. Sewer Heat Recovery
3. Seattle Steam connection
4. Substation Heat Recovery
The Challenge

Meet a High Environmental Bar
  * Waste-heat based system

Compete Against Low Rates
  * Cheap, clean electricity
  * No requirement to connect
Partnerships are Key

- Vision
- Stakeholders
- Incentives

- Feasibility
- Approach

- Coordination
- Waste Heat & Renewable Energy

- Needs
- Interests
- Commitment

City

Corix

Utilities

Developers

CityCorixDevelopersUtilities

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The Winning Equation

- Strong Developer Commitment
- Smart System Phasing

Can lead to Low Rates and Environmental Performance
The Neighborhood
System Phasing

Cumulative Serviced Floor Area (ft²)

- 2016: 3,000,000
- 2017: 4,000,000
- 2018: 5,000,000
- 2019: 10,000,000
- 2020: 12,000,000

Development Year
Estimated Rates

- Base Rate Range
- Rates with City Support
- Electric Rate Projections
Environmental Benefits

![Annual CO2 Emissions Graph]

- **Small Size DE**:
  - DE Heating (Tonnes): 1,000
  - BAU (Tonnes): 1,500
- **Medium Size DE**:
  - DE Heating (Tonnes): 2,000
  - BAU (Tonnes): 2,500
- **Large Size DE**:
  - DE Heating (Tonnes): 3,000
  - BAU (Tonnes): 3,500

Load Duration Renewable Energy %:
- Small Size DE: 62%
- Medium Size DE: 64%
- Large Size DE: 66%
Strengthening Partnerships with Customers

Success relies on this!

- Strong Developer Commitment
- Smart System Phasing

Can lead to Low Rates and Environmental Performance
Developer Outreach

• Developer Workshops and Meetings
  • To understand market & developer needs
  • To develop partnerships
  • To share information

• Developer / Customer “Toolbox”
  • Competitive, stable rates
  • Land use incentives / density bonuses
  • Connection credit to offset hydronic costs
  • LEED Point Value
  • And more ….
Questions & Discussion

• What strategies have others used?

• What challenges do other face in establishing district energy in new communities?

• What else should district energy utilities offer to help district energy take hold in new communities?